



## **Town of Arlington, MA Redevelopment Board**

### **Agenda & Meeting Notice March 27, 2023**

Per Board Rules and Regulations, public comments will be accepted during the public comment periods designated on the agenda. Written comments may be provided by email to [cricker@town.arlington.ma.us](mailto:cricker@town.arlington.ma.us) by Monday, March 27, 2023 at 3:00 p.m. The Board requests that correspondence that includes visual information should be provided by Friday, March 24, 2023 at 12:00 p.m.

The Arlington Redevelopment Board will meet Monday, March 27, 2023 at 7:30 PM in the **Arlington Community Center, Main Hall, 27 Maple Street, Arlington, MA 02476**

#### **1. Continued Public Hearing: Docket #3728, 99 Massachusetts Avenue**

7:30 p.m. Notice is herewith given that an application has been filed on November 3, 2022 by 99 Massachusetts Ave LLC, 99 Massachusetts Avenue, Arlington, MA, to open Special Permit Docket #3728 in accordance with the provisions of MGL Chapter 40A § 11, and the Town of Arlington Zoning Bylaw Section 3.4, Environmental Design Review. The applicant proposes to convert an existing office building to mixed-use by converting the attic to one residential unit at 99 Massachusetts Avenue in the B2 Neighborhood Business District. The opening of the Special Permit is to allow the Board to review and approve the development under Section 3.4, Environmental Design Review and Section 6.2, Signs.

- Applicant will be provided 15 minutes for an update on materials requested by the Board.
- DPCD staff will be provided 5 minutes for an overview of their updated Public Hearing Memorandum.
- Members of the public will be provided time to comment.
- Board members will discuss Docket and may vote.

#### **2. Non-Zoning Warrant Articles**

8:00 p.m. ARB to discuss and possibly vote on recommendation for Warrant Articles 21, 22, and 23, Transfer of ARB properties, and Warrant Article 14, Strategic Plan for New Growth.

#### **3. 2023 Annual Town Meeting – Zoning Warrant Articles**

8:30 p.m. The ARB will deliberate and may vote on the proposed zoning amendments for 2023 Annual Town Meeting

- Board members will discuss each proposed Main Motion and may vote with a recommendation to Town Meeting

**4. MBTA Communities Update and Discussion**

9:30 p.m. Staff will provide an update on the MBTA Communities Planning Process and next steps.

**5. Review Meeting Minutes**

10:00 p.m. Board will review and vote to approve meeting minutes for 3/6/2023.

**6. Open Forum**

10:15 p.m. Except in unusual circumstances, any matter presented for consideration of the Board shall neither be acted upon, nor a decision made the night of the presentation. There is a three minute time limit to present a concern or request.

**7. New Business**

10:15 p.m.

**8. Adjourn**

10:30 p.m. Estimated

**9. Correspondence**

Correspondence received from:

K. Anderson 3-27-2023

L. Woodard 3-27-2023



## Town of Arlington, Massachusetts

### Continued Public Hearing: Docket #3728, 99 Massachusetts Avenue

#### Summary:

7:30 p.m.

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- DPCD staff will be provided 5 minutes for an overview of their updated Public Hearing Memorandum.
- Members of the public will be provided time to comment.
- Board members will discuss Docket and may vote.

#### ATTACHMENTS:

Type	File Name	Description
□ Reference Material	Updated_Memo_for_Docket_3728_99_Mass_Ave_03-23-2023.pdf	Updated Public Hearing Memo for Docket 3278 99 Mass Ave 03232023
□ Reference Material	99_Mass_Ave_-__20230321.pdf	99 Mass Ave. Updated Application Materials 03212023
□ Reference Material	99_Mass_Ave_-__Special_Permit_030623_MEETING.pdf	99 Mass Ave Application Materials 03062023
□ Reference Material	99_Mass_Ave_-__Special_Permit_030623_SHADOW_STUDY.pdf	99 Mass Ave Shadow Study 03062023
□ Reference Material	99_Mass_Ave_Renderings.pdf	99 Mass Ave Renderings 03062023
□ Reference Material	PAC_Flush_Wall_Spec_Sheet.pdf	99 Mass Ave Flush Wall Panels 03062023
□ Reference Material	PAC-Color-Guide.pdf	99 Mass Ave Color Guide 03062023
□ Reference Material	Updated_Public_Hearing_Memo_for_Docket_3728_99_Mass_Ave_03-02-2023.pdf	Updated Public Hearing Memo for Docket 3728 99 Mass Ave 03022023
□ Reference Material	99_Mass_Ave_-__Rendering.pdf	99 Mass Ave Rendering 12052022
Reference		99 Mass Ave LEED

□ Material	LEED-v41-Residential_-MF_MFCS-Scorecard-99_MASS_AVE.pdf	Scorecard 12052022
□ Reference Material	99_Mass_Ave_Bicycle_Parking.pdf	99 Mass Ave Bicycle Parking 12022022
□ Reference Material	EDR_Public_Hearing_Memo_Docket_3728_99_Mass_Ave.pdf	EDR Public Hearing Memo Docket #3728 99 Mass Ave 120122022
□ Reference Material	99_Mass_Ave_Application_Materials.pdf	99 Mass Ave Docket 3728 Application Materials 11022022



**Town of Arlington, Massachusetts**  
Department of Planning & Community Development  
730 Massachusetts Avenue, Arlington, Massachusetts 02476

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## Public Hearing Memorandum

*The purpose of this memorandum is to provide the Arlington Redevelopment Board and public with technical information and a planning analysis to assist with the regulatory decision-making process.*

**To:** Arlington Redevelopment Board  
**From:** Claire Ricker, Secretary Ex Officio  
**Subject:** Update to Environmental Design Review, 99 Mass Ave, Arlington, MA, Docket #3728  
**Date:** March 23, 2023

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This memo is provided as an update to the memos provided on December 1, 2022 and March 2, 2023. The following items were provided by the Applicant since the last hearing:

- Updated zoning analysis, site diagram, and roof plan

These items address the follow-up items requested by the ARB at the March 6, 2023 meeting as follows:

- *A calculation of landscaped open space to make sure the prior nonconformity is not being increased by the proposal;*

Between the landscaped area around the perimeter of the site and the new permeable pavers proposed for the walkway, the applicant has proposed an increase in landscaped open space from 5% to 13.2% (+506 square feet). Sheet Z0.2 provides details on how the applicant calculated landscaped open space.

- *Updated specifications on metal panel (the material with the reveal was preferred);*

The applicant will provide updated specifications or a sample of the metal panel at the 3/27/23 meeting.

- Identifying / moving the second bike rack to the exterior;

Sheets Z0.1 and Z0.2 provide details on the additional bike rack, which is proposed to be located along the walkway next to the rear of the building.

- *A roof plan showing solar panels provided on at least 50% of the roof;*

Sheet ROOF demonstrates that 873 square feet of roof area will be dedicated to solar panels; this comprises 55% of the total roof area.

- *Adding fencing along plan west edge of the parking area;*

The proposed fencing is noted in a red dashed line on Sheet Z0.2, and is proposed for the site perimeter from the walkway to the rear corner of the parcel.

- *A planting schedule using the Town of Arlington native planting schedule, and provide shrubs on the plan west side of the building.*

All proposed plantings are listed on the “Recommended Native Plant Materials List” produced by the Arlington Conservation Commission. Three of the plantings proposed for the plan west side of the building – Witch-Hazel, Inkberry, and Arrowwood Viburnum – are shrubs.

ZONING DATA PER §5.5.2 - TABLES OF DIMENSIONAL AND DENSITY REGULATIONS

	ZONING DISTRICT - B2 (MIXED-USE <= 20,000 SQ. FT.)	ALLOWED/ REQUIRED	EXISTING	PROPOSED	COMPLIANCE
A	MINIMUM LOT SIZE (S.F.)	----	±3,776	NO CHANGE	CONFORMS
B	MIN. FRONTAGE (FT)	50	40	NO CHANGE	EXISTING NON-CONF.
C	FLOOR AREA RATIO MAX. (FAR)	1.5 (3.0)	1.27	1.59	CONFORMS
D	LOT COVERAGE MAX. (%) 1,600 SF / 3,776 SF = 42	35	42	NO CHANGE	EXISTING NON-CONF.
E	MINIMUM LOT AREA PER DWELLING UNIT (S.F.)	NA	--	--	NA
F	MIN. FRONT YARD (FT) MASS AVE.	----	2.3	NO CHANGE	CONFORMS
G	MIN. FRONT YARD (FT) LEE TERR.	----	5.2	NO CHANGE	CONFORMS
	MIN. SIDE YARD - LEFT	----	2.8	NO CHANGE	CONFORMS
H	MIN. REAR YARD (FT)	10+(L/10) = 15	36.9	NO CHANGE	CONFORMS
I	MAX. HEIGHT (STORIES / FT)	4 / 50	3 / 38.25	4 / 37.75	CONFORMS
J	OPEN SPACE: MIN. LANDSCAPED AREA (%)	10	5	7.5	EXISTING NON-CONF. (IMPROVED)
K	OPEN SPACE: MIN. USABLE AREA (%)	20	NONE	0	
\$6.1. 4	MIN. NO. OF PARKING SPACES	5	6	NO CHANGE	CONFORMS

PARKING CALCULATION:  
EXISTING SPACES PROVIDED: 6  
PARKING REQUIRED:  
BUSINESS USE: 1/500 GSF 4,800 SF  
Mixed-Use development parking exemption per Section 6.1.10.C -3,000 SF  
TOTAL 1,800 SF = 4  
NEW RESIDENTIAL USE: 1 DU/1.5 = 1.5  
TOTAL SPACES REQUIRED = 6

BICYCLE PARKING CALCULATION:  
EXISTING SPACES PROVIDED: 0  
PARKING REQUIRED:  
LONG-TERM:  
OFFICE/BUSINESS USE: 0.3/1,000 GSF = 1.5  
NEW RESIDENTIAL USE: 1.5/1 DU = 1.5  
TOTAL SPACES REQUIRED = 3  
SHORT-TERM:  
OFFICE/BUSINESS USE: 0.5/1,000 GSF = 2.5  
NEW RESIDENTIAL USE: 0.1/1 DU = 0.1  
TOTAL SPACES REQUIRED = 3

PROJECT DESCRIPTION:  
99 MASS AVE., ARLINGTON, MA IS CURRENTLY A PROFESSIONAL OFFICE BUILDING; PRIMARILY BUSINESS USE "B". IT CONTAINS APPROXIMATELY 4,800 GROSS SQUARE FEET ON THREE LEVELS, WITH TWO LEVELS ABOVE THE GRADE PLANE AND ONE LEVEL ONE-HALF STORY BELOW. THE BUILDING IS NOT CURRENTLY SPRINKLERED. WORK INCLUDES CONSTRUCTION OF A DWELLING UNIT IN THE CURRENT ATTIC LEVEL. THIS WORK SHALL INCLUDE EXTENDING THE STAIRS TO THE THIRD FLOOR, NEW PARTITIONS, NEW BATHROOM AND EXTENDING SYSTEMS TO THE THIRD LEVEL. WORK WILL INCLUDE BUILDING A FOURTH LEVEL AND BALCONY.

PROJECT ASSUMPTIONS:

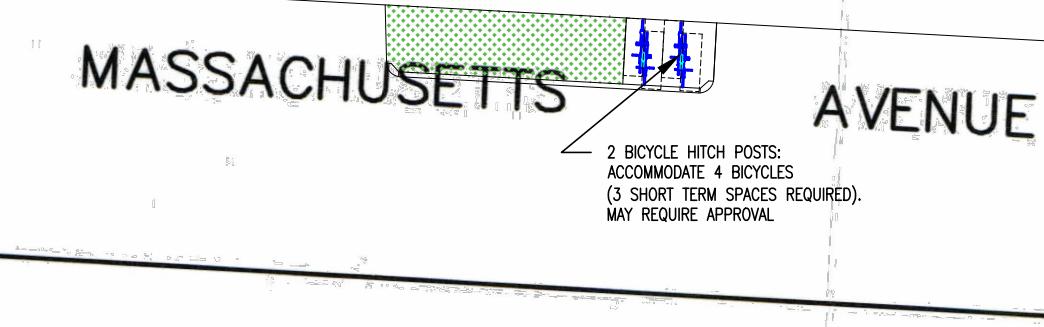
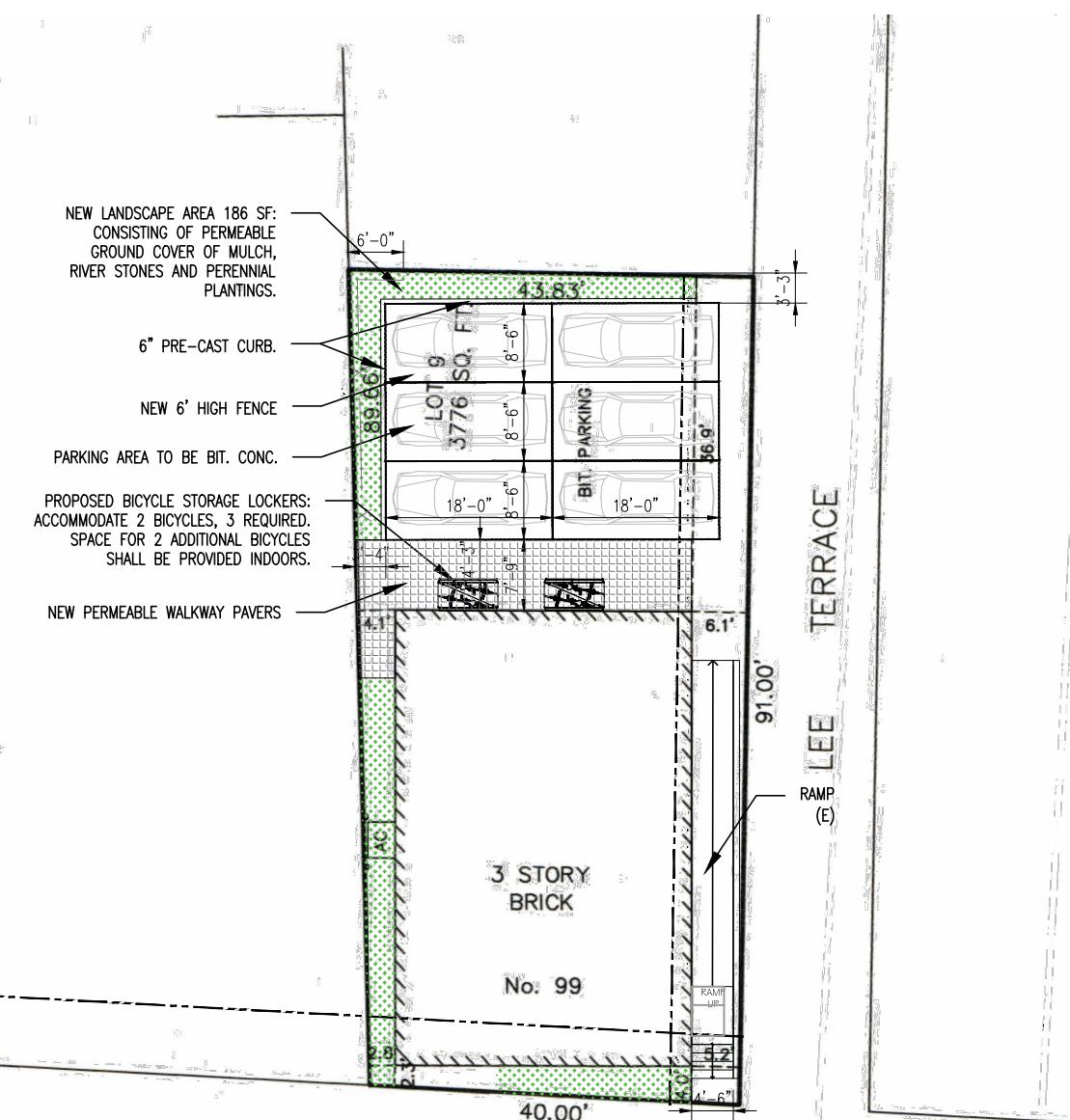
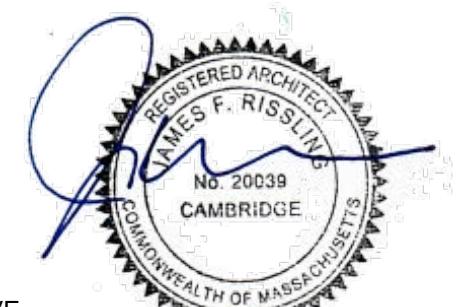
Zoning:  
Mixed-Use <= 20,000SF:  

- Increased FAR
- 3,000SF Parking Calculation Deduction
- Requires Special Permit
- 4 Stories
- 4th Story Step-back
- Existing Parking

Life Safety:

Recommend Automatic Sprinkler System:  

- Increased Travel Distance
- Allows Uses above Grade Plane



ZONING SITE DIAGRAM  
1" = 20'

SITE DIAGRAM BASED ON SURVEY BY:  
AGH ENGINEERING, STOUGHTON, MA  
FEB. 3 2016

Project Title:

99 Mass Ave  
Arlington, MA

Zoning Information

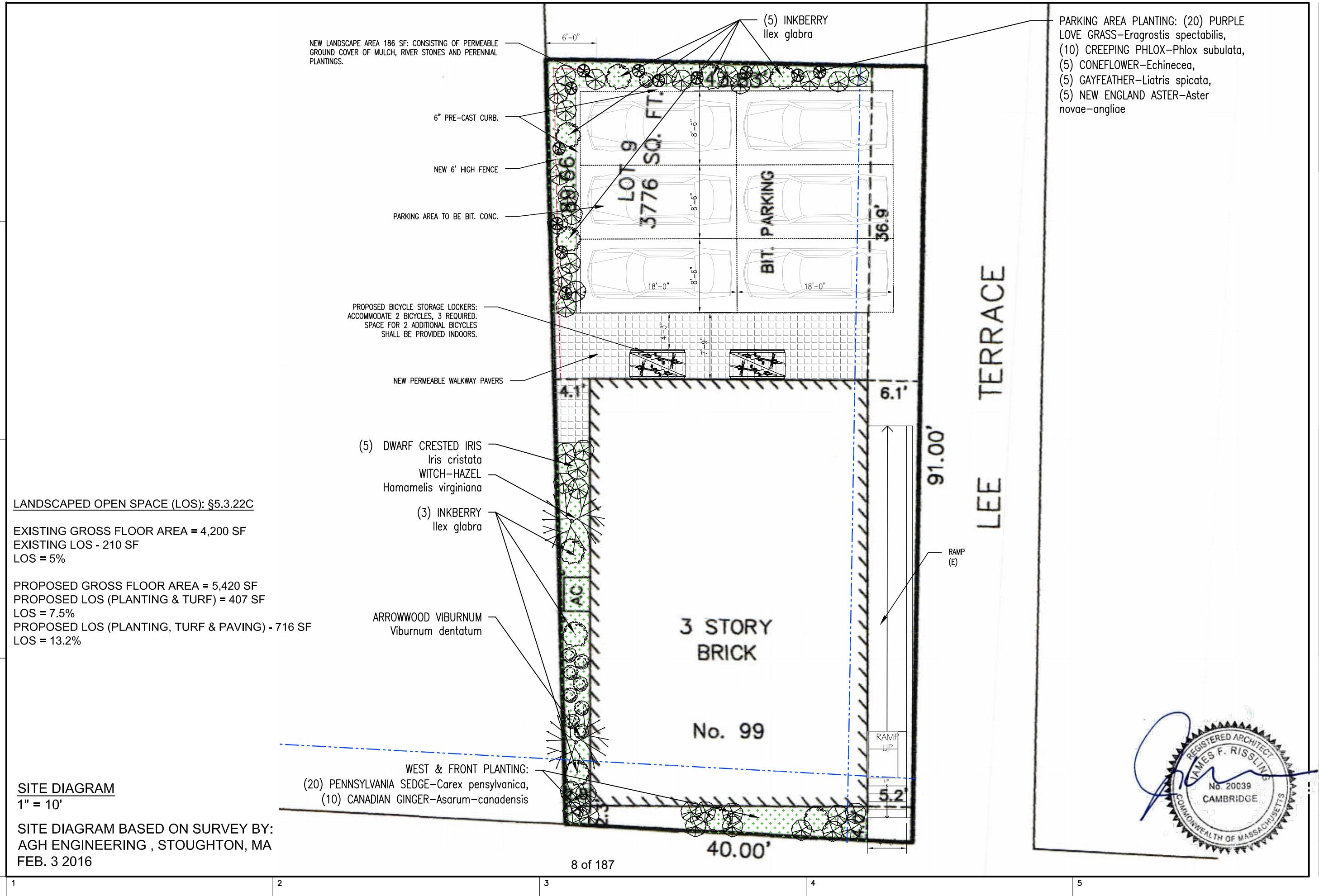
Drawing Title:  
Revisions:  
# Description date

Project # 21041

Scale:  
as noted

Date: Oct. 31, 2022  
Dec. 2, 2022  
Mar. 6, 2023

Drawing # Mar. 21, 2023  
Z0.1



**Site Diagram**

Project Title:	99 Mass Ave Arlington, MA	
Drawing Title:		
Drawing # Z0.2		
Revisions: # Description date		
Project # 21041		
Scale: as noted		
Date: Oct. 31, 2022 Dec. 2, 2022 Mar. 6, 2023		
Drawing # Mar. 21, 2023		

**LR Designs**  
DESIGNERS, ARCHITECTS, DEVELOPMENT ADVISORS  
64 NUNSTON STREET, SUITE 3  
CAMBRIDGE, MA 02139  
617.528.2113  
LRDESIGNING.COM

99 Mass Ave  
Arlington, MA

**Roof Plan -  
Solar Panels**

Project Title:

Revisions:  
# Description date

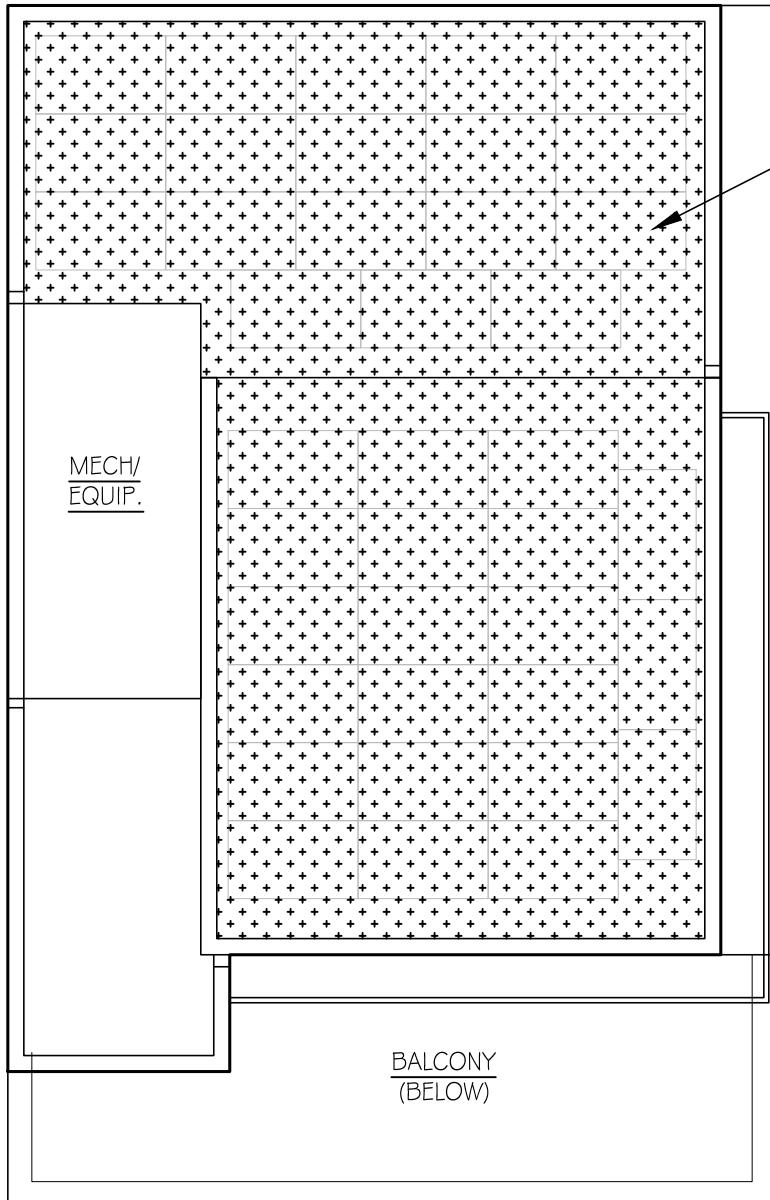
Project #:  
21041

Scale:  
as noted

Date:  
Oct. 31, 2022  
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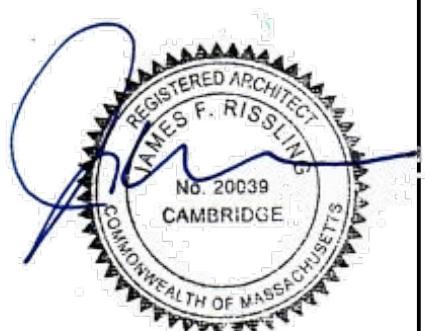
Drawing #:  
Mar. 21, 2023

**ROOF**



**ROOF PLAN - ROOF AREA 1,600 SF**

1/8" = 1'-0"



A

B

C

D

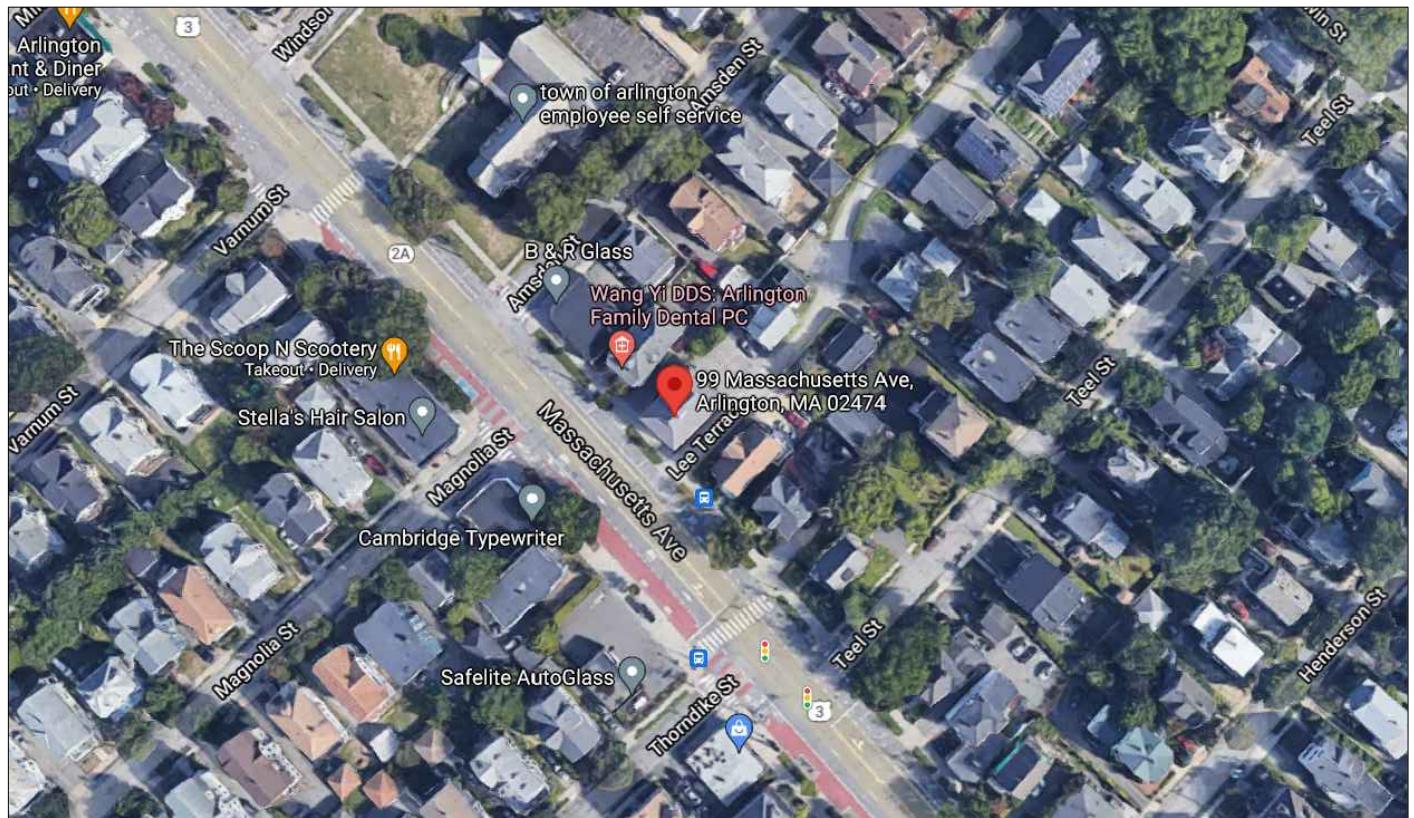
## LIST OF DRAWINGS



99 MASS AVE FRONT VIEW



99 MASS AVE REAR VIEW



PROJECT LOCATION:

**99 Mass Ave  
Arlington, MA**

ZONING DISTRICT: BUSINESS B

	SPECIAL PERMIT	SPECIAL PERMIT REVISED
ISSUED	OCTOBER 31, 2022	MARCH 6, 2023
COVER	<input type="radio"/>	<input checked="" type="radio"/>
Z0.1 ZONING INFORMATION: SITE DIAGRAM	<input type="radio"/>	<input checked="" type="radio"/>
Z0.2 SITE DIAGRAM		<input checked="" type="radio"/>
EX1.1 EXISTING CONDITIONS: PLANS	<input type="radio"/>	<input checked="" type="radio"/>
EX1.1 EXISTING CONDITIONS: PLANS	<input type="radio"/>	<input checked="" type="radio"/>
EX(A)1.2 EXISTING & PROPOSED PLANS	<input type="radio"/>	<input checked="" type="radio"/>
EX2.1 EXISTING CONDITIONS: ELEVATIONS	<input type="radio"/>	<input checked="" type="radio"/>
EX2.2 EXISTING CONDITIONS: ELEVATIONS	<input type="radio"/>	<input checked="" type="radio"/>
A2.1 ELEVATIONS: EXISTING & PROPOSED	<input type="radio"/>	<input checked="" type="radio"/>
A2.1a ELEVATIONS: FORMER & CURRENT PROPOSED		<input checked="" type="radio"/>
A2.2 ELEVATIONS: EXISTING & PROPOSED	<input type="radio"/>	<input checked="" type="radio"/>
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A2.4 ELEVATIONS: EXISTING & PROPOSED	<input type="radio"/>	<input checked="" type="radio"/>

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PARKING CALCULATION:

EXISTING SPACES PROVIDED:

6

4,800 SF

PARKING REQUIRED:

BUSINESS USE: 1/500 GSF

Mixed-Use development parking exemption per Section 6.1.10.C

-3,000 SF

TOTAL

1,800 SF

=

4

NEW RESIDENTIAL USE: 1 DU/1.5

TOTAL SPACES REQUIRED

=

1.5

=

6

BICYCLE PARKING CALCULATION:

EXISTING SPACES PROVIDED:

0

PARKING REQUIRED:

LONG-TERM:

OFFICE/BUSINESS USE: 0.3/1,000 GSF

=

1.5

NEW RESIDENTIAL USE: 1.5/1 DU

=

1.5

TOTAL SPACES REQUIRED

=

3

SHORT-TERM:

OFFICE/BUSINESS USE: 0.5/1,000 GSF

=

2.5

NEW RESIDENTIAL USE: 0.1/1 DU

=

0.1

TOTAL SPACES REQUIRED

=

3

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PROJECT ASSUMPTIONS:

Zoning:

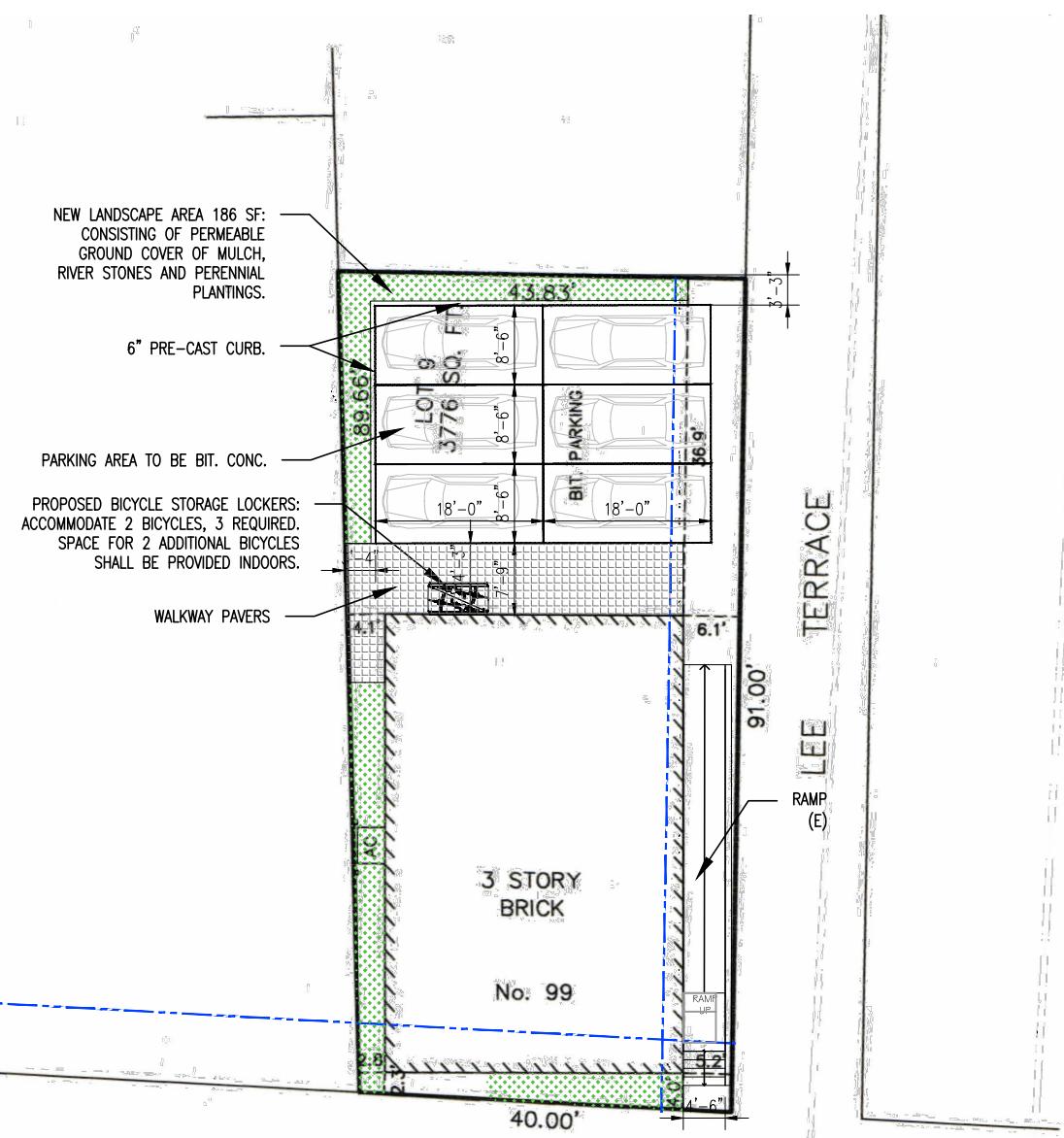
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- Increased Travel Distance
- Allows Uses above Grade Plane



ZONING SITE DIAGRAM

1" = 20'

SITE DIAGRAM BASED ON SURVEY BY:  
AGH ENGINEERING, STOUGHTON, MA  
FEB. 3 2016

Project Title:

99 Mass Ave  
Arlington, MA

Drawing Title:

Zoning Information

Revisions:

# Description date

Project #

21041

Scale:

as noted

Date:

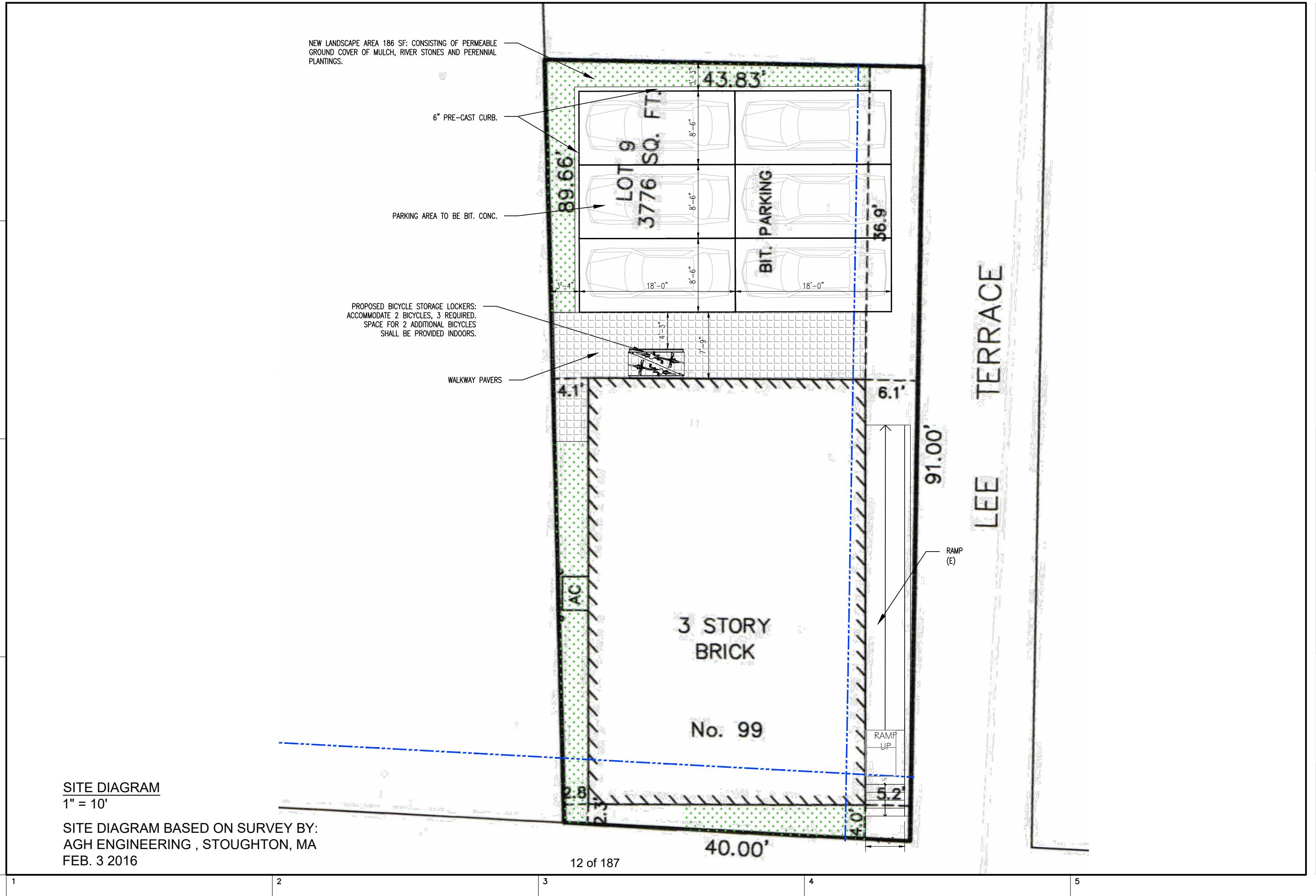
Oct. 31, 2022  
Dec. 2, 2022  
Mar. 6, 2023

Drawing #

Z0.1

LR Designs Inc.  
DESIGNERS, ARCHITECTS, DEVELOPMENT ADVISORS

64 ALLSTON STREET, SUITE 3  
CAMBRIDGE, MA 02139  
617.588.2113  
LRDDESIGNING.COM



<b>Site Diagram</b>		Project Title: 99 Mass Ave Arlington, MA
Drawing Title:		
Revisions:	# Description	date
Project #	21041	
Scale:	as noted	
Date:	Oct. 31, 2022 Dec. 2, 2022 Mar. 6, 2023	
Drawing #	Z0.2	
LR Designs	INC.	DESIGNERS, ARCHITECTS, DEVELOPMENT ADVISORS 64 ALLSTON STREET, SUITE 3 CAMBRIDGE, MA 02139 617.528.2113 LRDESIGNING.COM

99 Mass Ave  
Arlington, MA

Photos

Project Title:

99 Mass Ave  
Arlington, MA

Drawing Title:

99 Mass Ave  
Arlington, MA

Revisions:  
# Description date

Project # 21041

Scale: as noted

Date: Oct. 31, 2022  
Dec. 2, 2022  
Mar. 6, 2023

Drawing # P1.1



VIEW OF SOUTHWEST CORNER



VIEW OF NORTHEAST CORNER



VIEW ACROSS LEE TERRACE

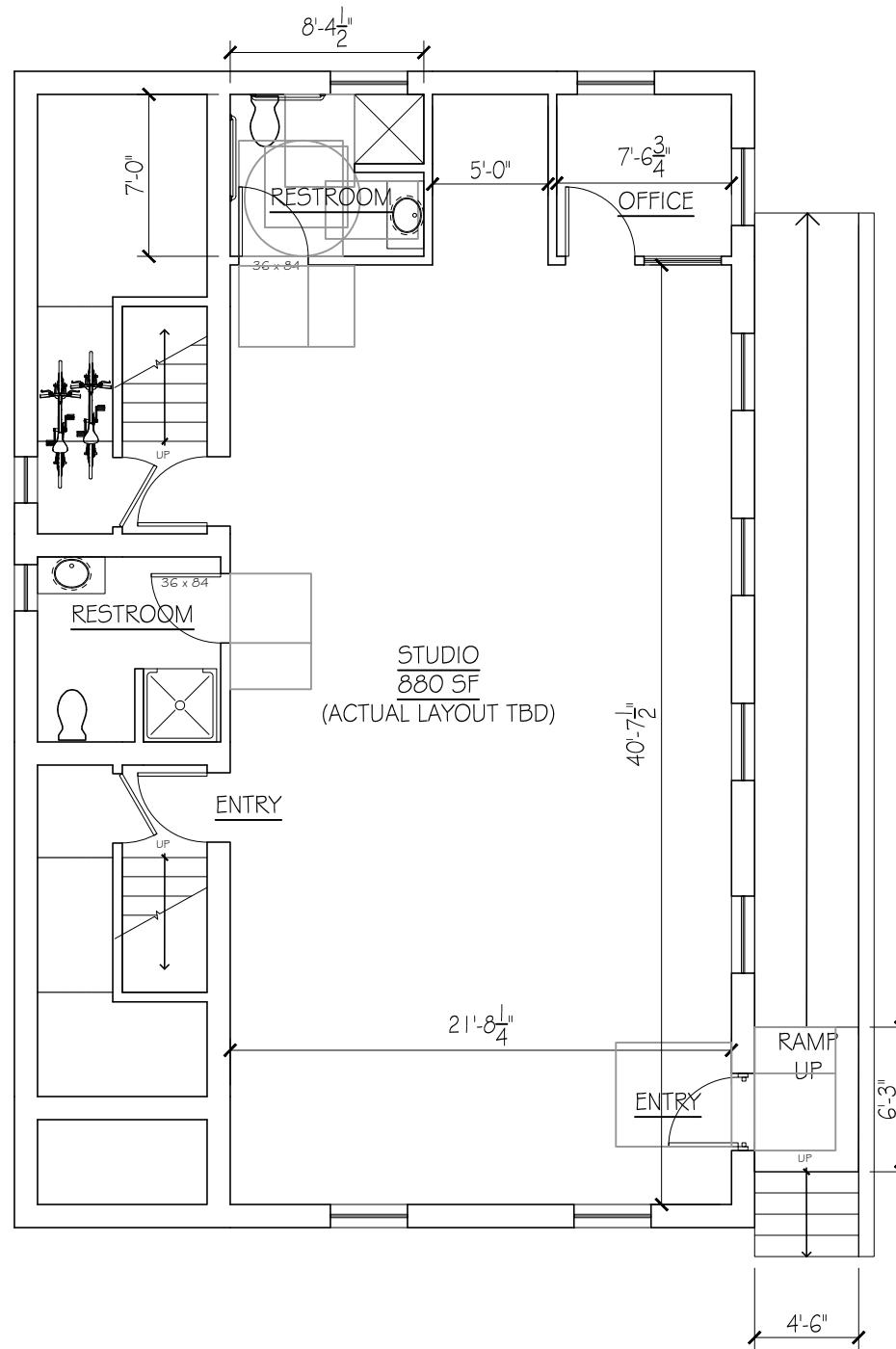


VIEWS LOOKING DOWN MASS AVE

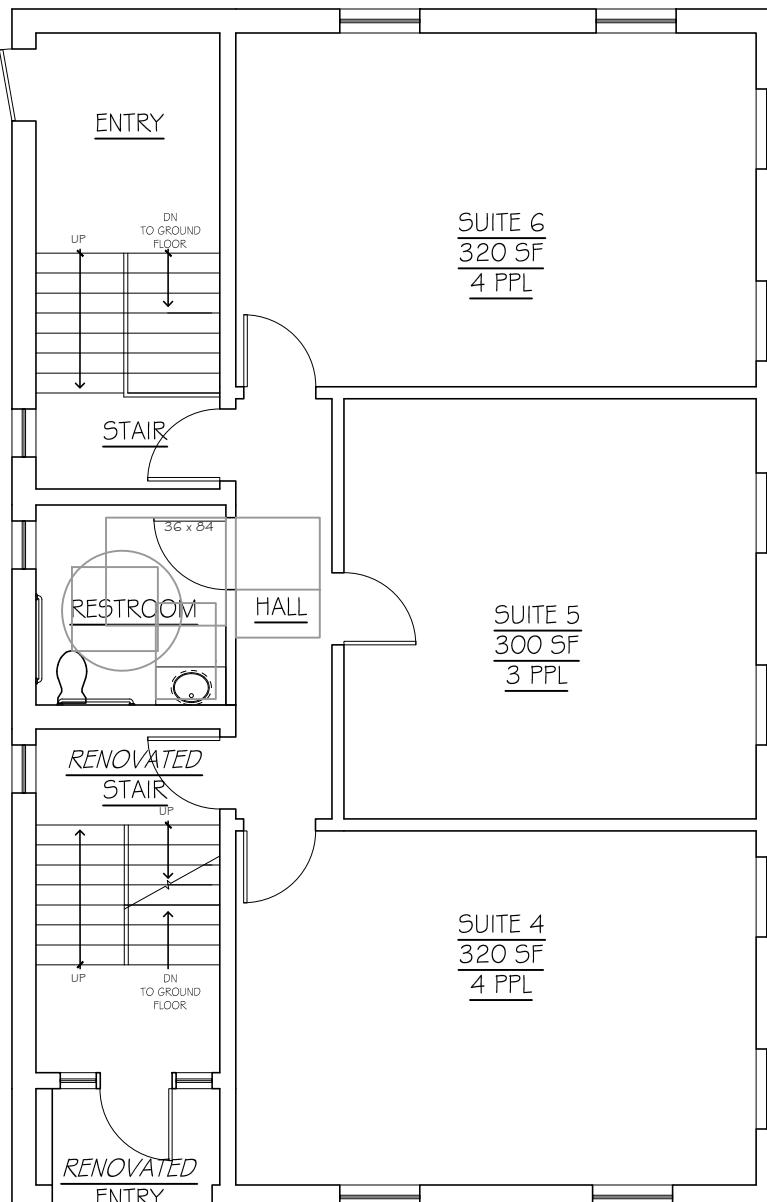


VIEWS OF SOUTH SIDE OF MASS AVE

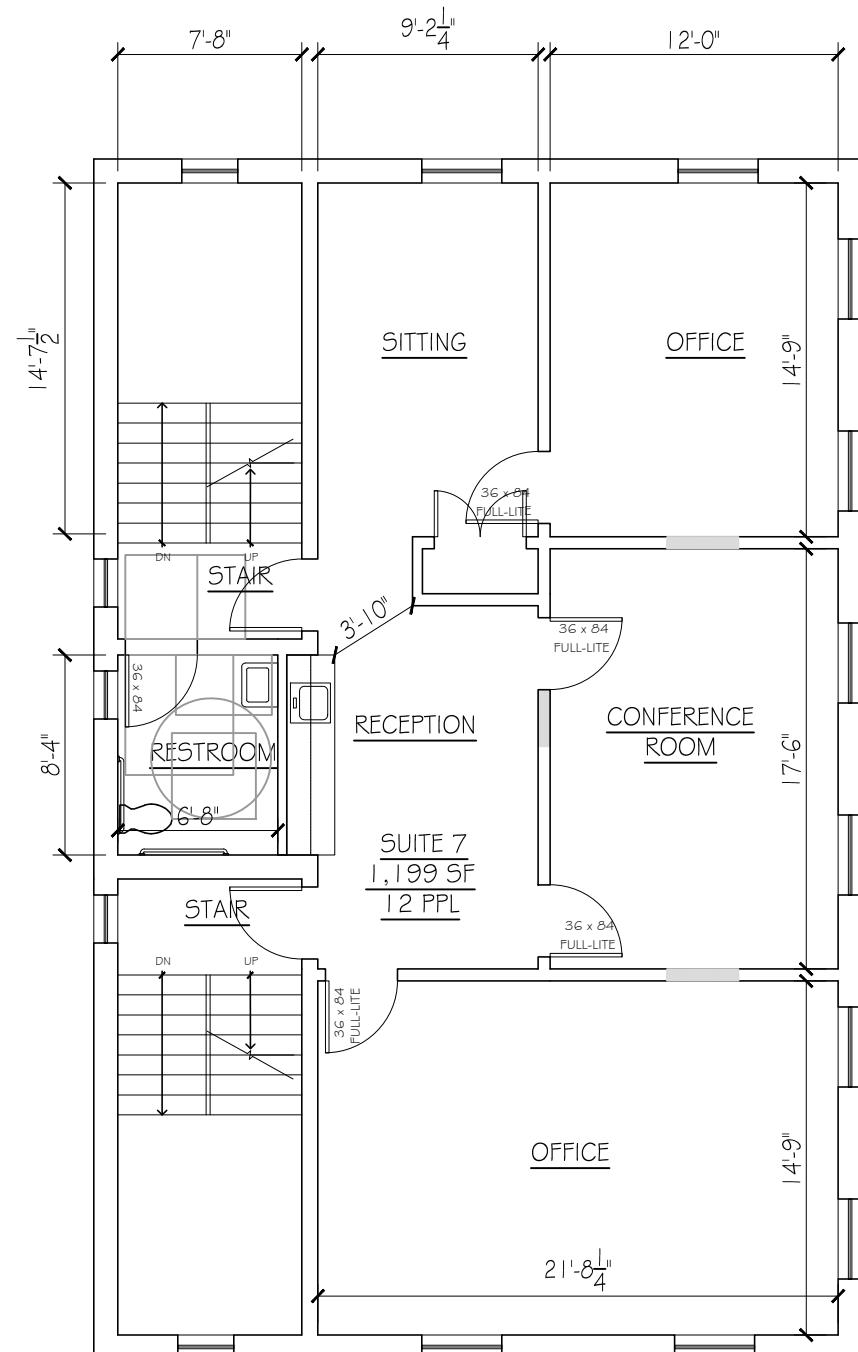




GROUND FLOOR PLAN - 1,600 GSF  
1/8 = 1'-0"



FIRST FLOOR PLAN - 1,600 GSF  
1/8 = 1'-0"



SECOND FLOOR PLAN - 1,600 GSF  
1/8 = 1'-0"

Project Title: \_\_\_\_\_  
Drawing Title: \_\_\_\_\_

## EXISTING CONDITIONS: PLANS

visions:  
escription date

Project #

Scale:

1/8" = 1'-0"

Mar. 6, 2023

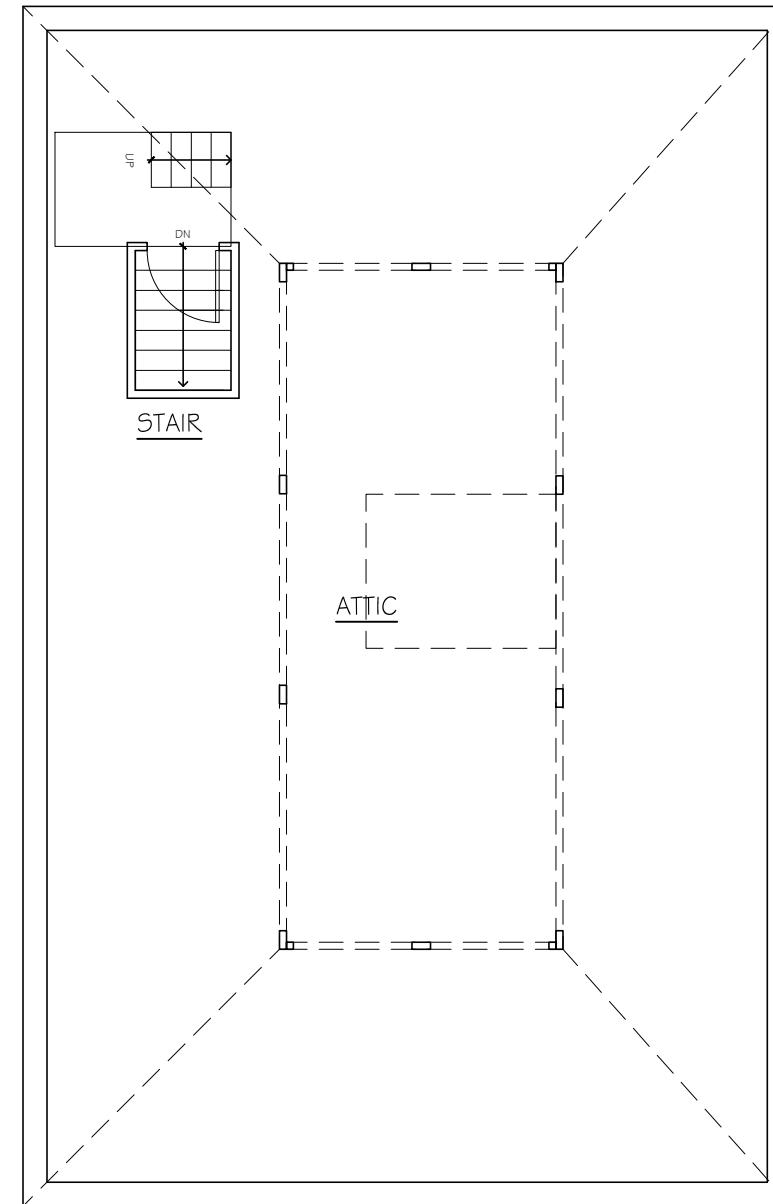
## EX1.1

Project Title:  
99 Mass Ave  
Arlington, MA

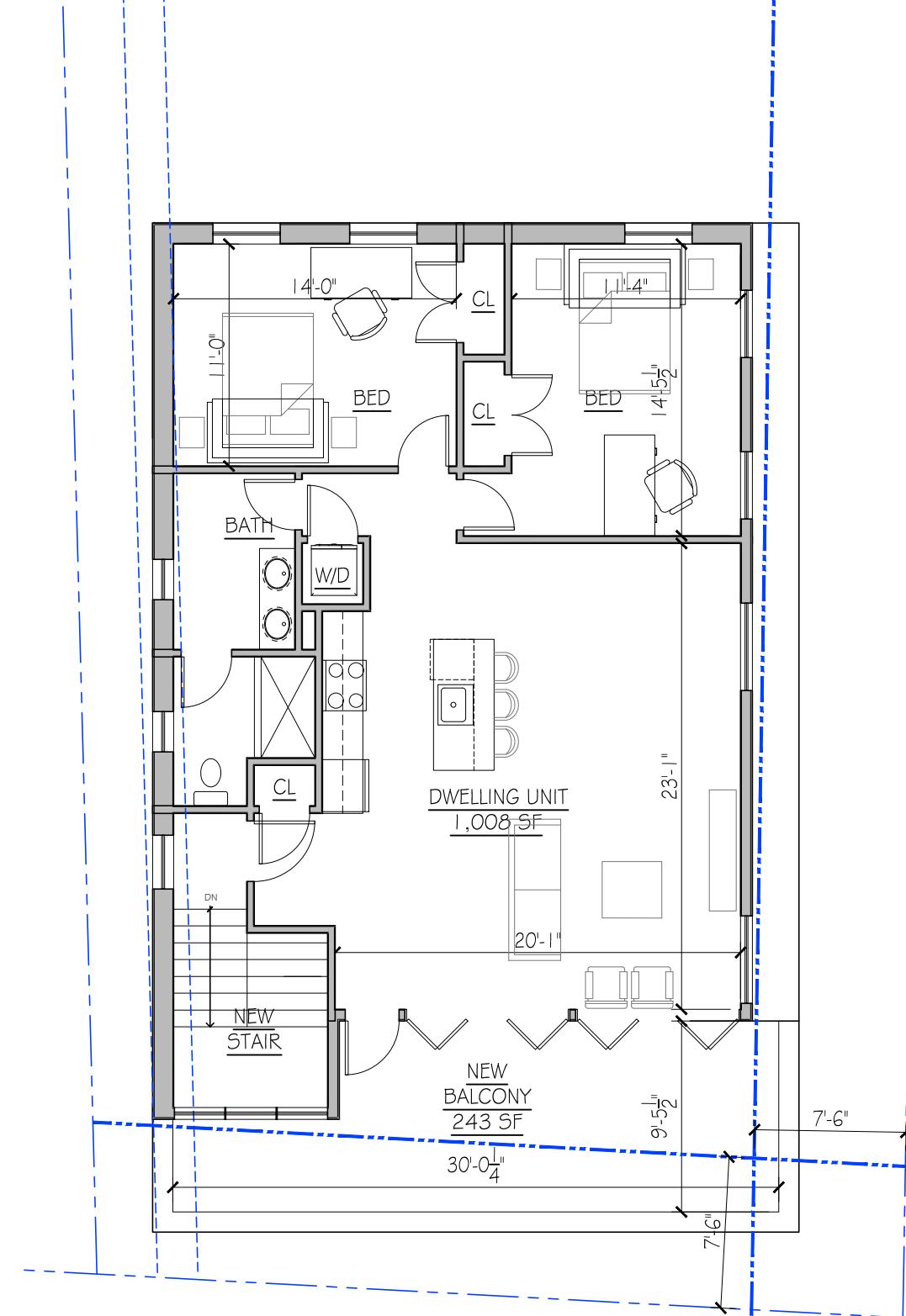
Drawing Title:  
**EXISTING &  
PROPOSED PLANS:  
ATTIC / FOURTH STORY**

Rewards:  
# Description date

Project #: 21041  
Scale: 1/8" = 1'-0"  
Date: Oct. 31, 2022  
Dec. 2, 2022  
Mar. 6, 2023  
Drawing #: EX(A)1.2

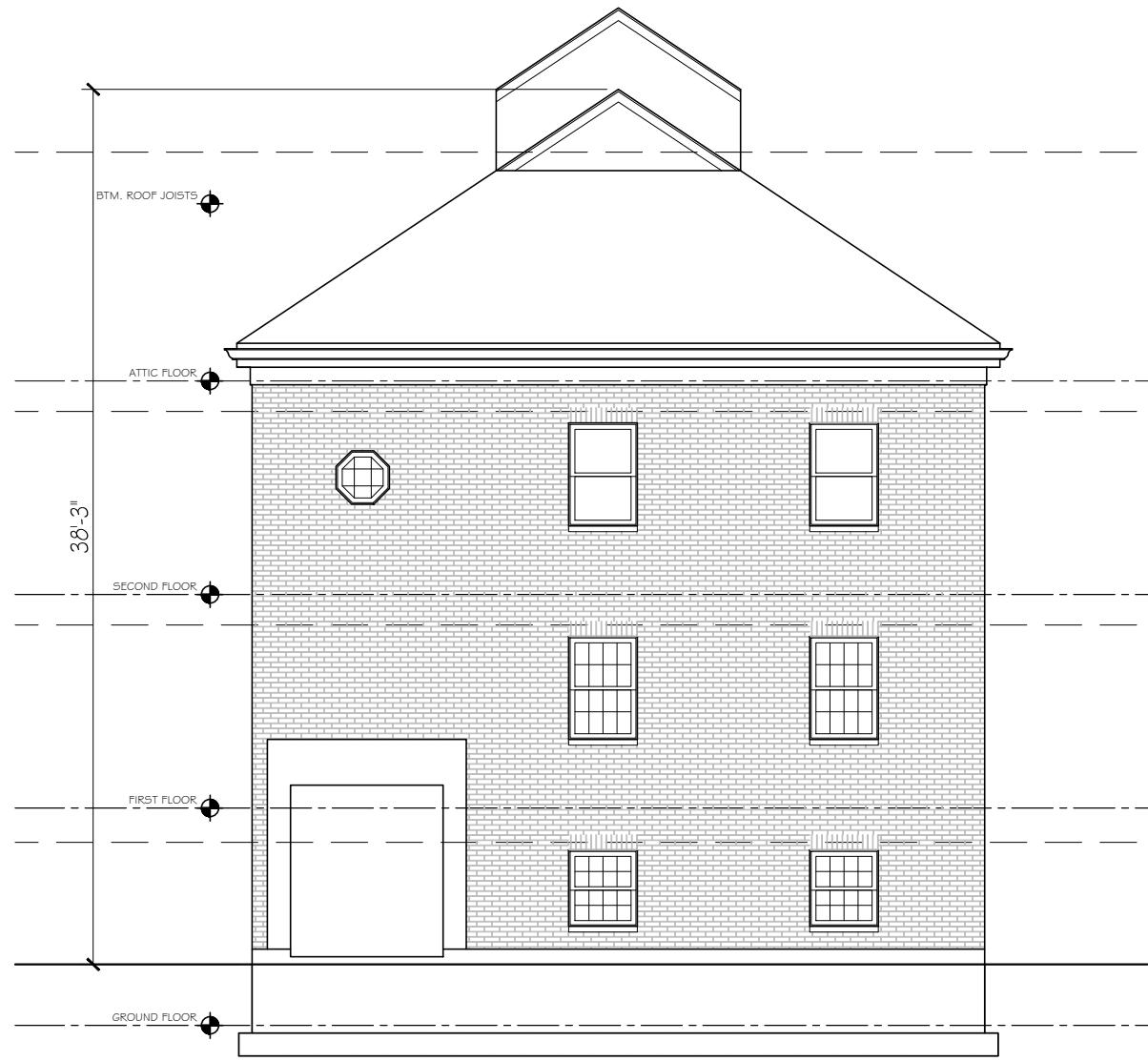


ATTIC FLOOR PLAN - 314 SF > 7' HGT.  
1/8 = 1'-0"

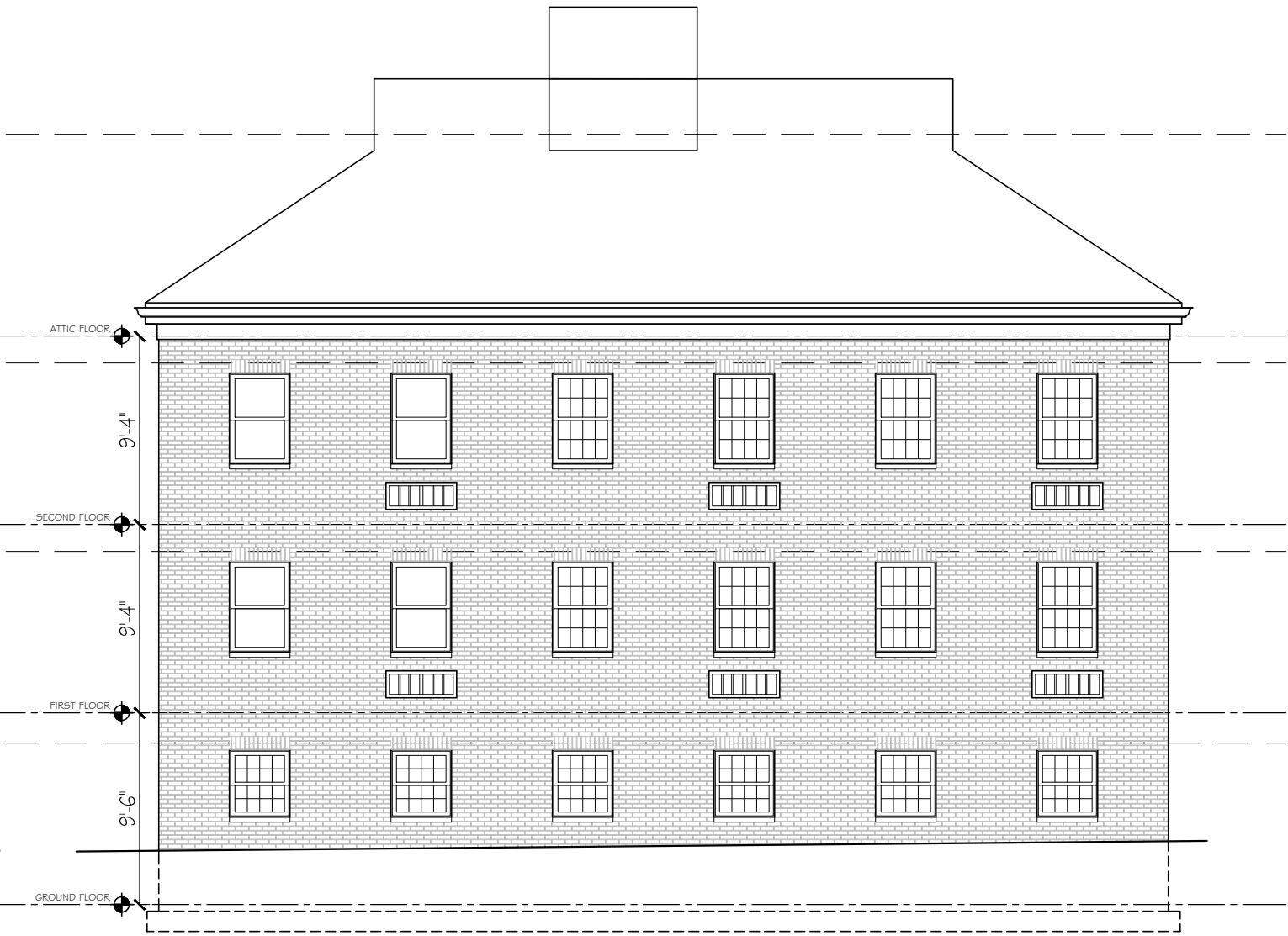


PROPOSED FLOOR PLAN - 1,220 SF  
1/8 = 1'-0"

FRONT ELEVATION  
1/8 = 1'-0"



RIGHT SIDE ELEVATION  
1/8 = 1'-0"





<b>LR Designs</b> <small>INC.</small> <small>DESIGNERS, ARCHITECTS, DEVELOPMENT ADVISORS</small> <small>64 ALLSTON STREET, SUITE 3</small> <small>CAMBRIDGE, MA 02139</small> <small>617.588.2115</small> <small>LRDESIGNING.COM</small>	
Project Title:	99 Mass Ave Arlington, MA
Drawing Title:	EXISTING CONDITIONS: EXTERIOR ELEVATIONS
Rewards:	# Description date
Project #	21041
Scale:	1/8" = 1'-0"
Date:	Oct. 31, 2022 Dec. 2, 2022 Mar. 6, 2023
Drawing #	<b>EX2.2</b>

99 Mass Ave  
Arlington, MA

**ELEVATIONS  
EXISTING & PROPOSED**

Project Title:

Revisions:		
#	Description	Date

Project # 21041  
Scale: 1/8" = 1'-0"  
Date: Oct. 31, 2022  
Dec. 2, 2022  
Mar. 6, 2023  
Drawing # A2.1



**EXISTING ELEVATION- FRONT**  
1/8 = 1'-0"

**PROPOSED ELEVATION - FRONT**  
1/8 = 1'-0"

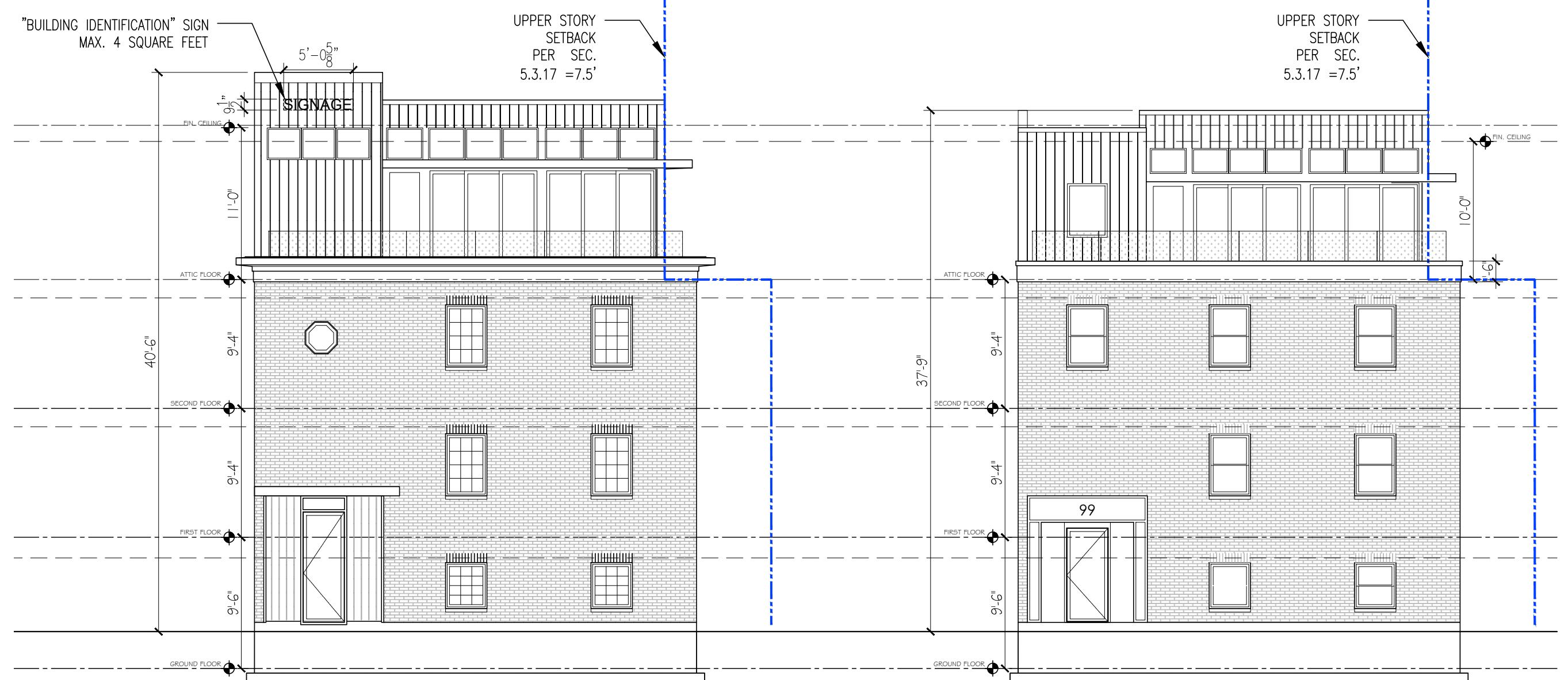
99 Mass Ave  
Arlington, MA

Drawing Title: **ELEVATIONS  
FORMER & CURRENT  
PROPOSED**

Revisions:  
# Description date

Project #: 21041  
Scale: 1/8" = 1'-0"  
Date: Oct. 31, 2022  
Dec. 2, 2022  
Mar. 6, 2023

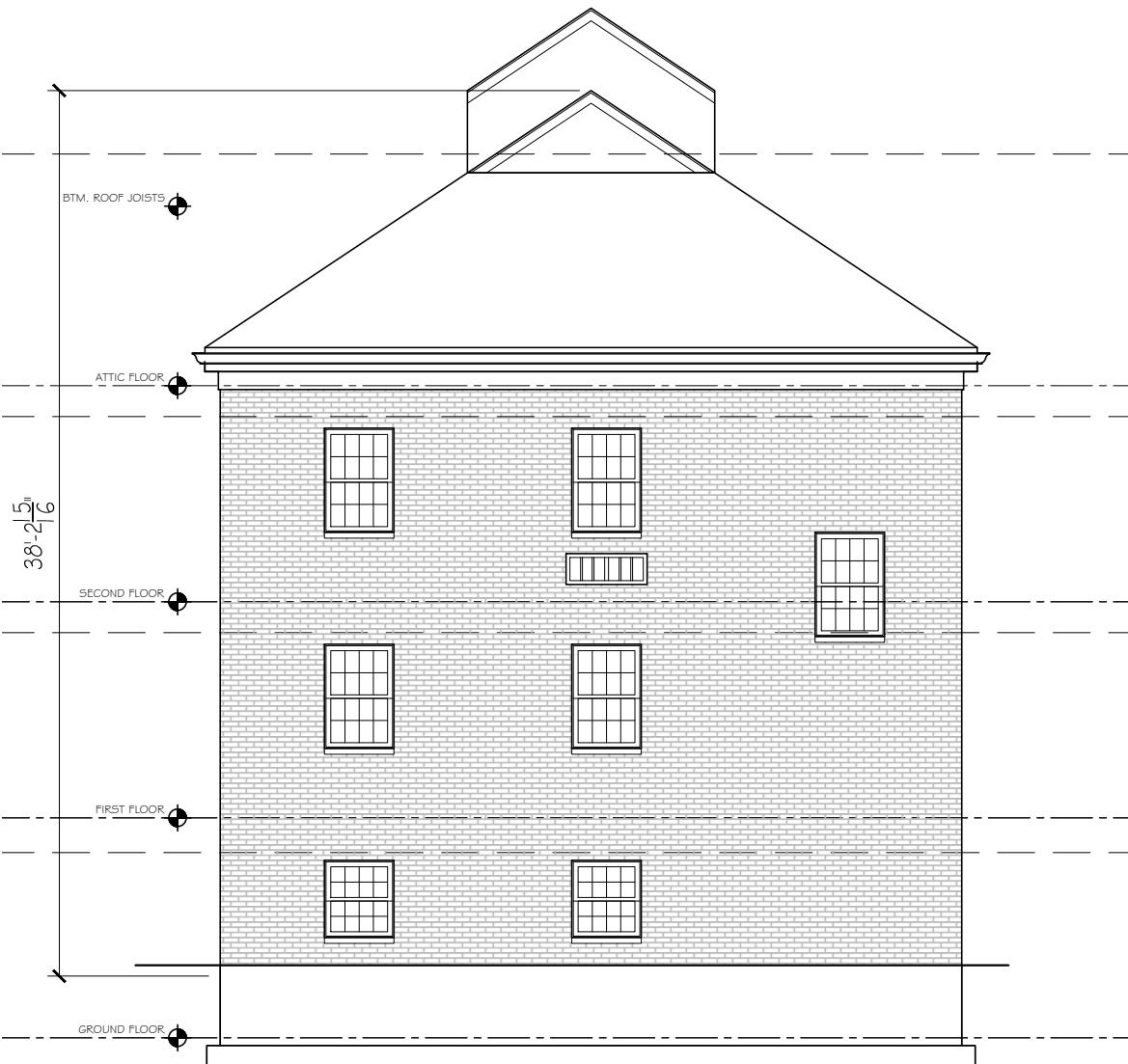
Drawing #: **A2.1a**



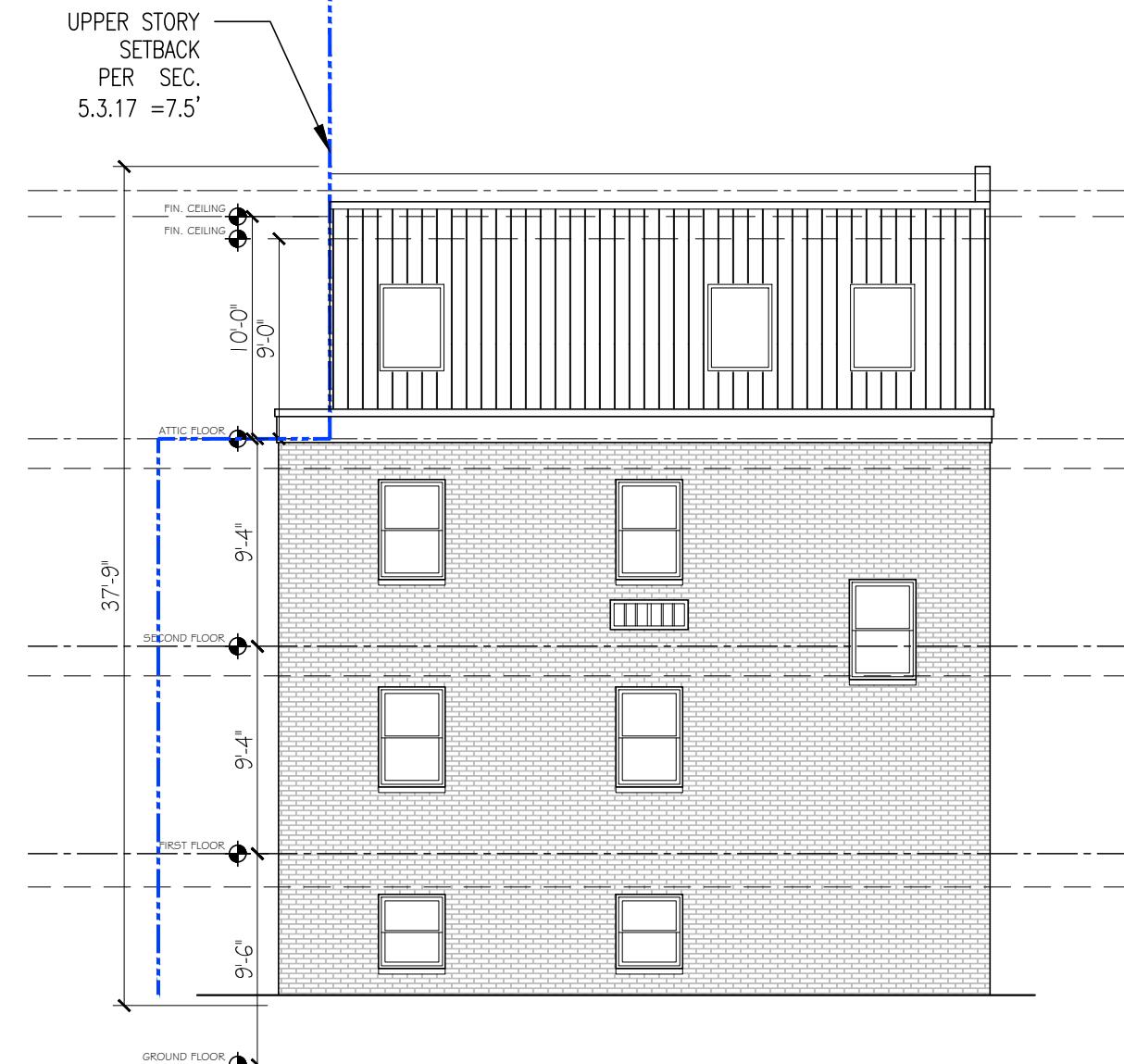
**FORMERLY PROPOSED ELEVATION- FRONT**  
1/8 = 1'-0"

**CURRENTLY PROPOSED ELEVATION - FRONT**  
1/8 = 1'-0"





EXISTING ELEVATION- REAR  
1/8 = 1'-0"



PROPOSED ELEVATION- REAR  
1/8 = 1'-0"



<b>LR Designs</b> INC.	DESIGNERS, ARCHITECTS, DEVELOPMENT ADVISORS
64 ALLSTON STREET, SUITE 3	CAMBRIDGE, MA 02139
617.588.2113	LRDESIGNING.COM
Project Title:	99 Mass Ave Arlington, MA
Drawing Title:	ELEVATIONS EXISTING & PROPOSED
Revisions:	# Description date
Project #:	21041
Scale:	1/8" = 1'-0"
Date:	Oct. 31, 2022 Dec. 2, 2022 Mar. 6, 2023
Drawing #:	A2.4

99 Mass Ave  
Arlington, MA

**SHADOW STUDY**

Project Title:

Revisions:  
# Description date

Project # 21041

Scale: as noted

Date: Oct. 31, 2022  
Dec. 2, 2022  
Mar. 6, 2023

Drawing # SS1.1

**EXISTING**



WINTER SOLSTICE - AM



WINTER SOLSTICE - NOON

**PROPOSED**



WINTER SOLSTICE - AM



WINTER SOLSTICE - NOON

## EXISTING



SUMMER SOLSTICE - AM



SUMMER SOLSTICE - NOON



SUMMER SOLSTICE - PM

## PROPOSED



SUMMER SOLSTICE - AM



SUMMER SOLSTICE - NOON



SUMMER SOLSTICE - PM

Project Title:  
99 Mass Ave  
Arlington, MA

Drawing Title:  
SHADOW STUDY

Revisions:  
# Description date

Project #  
21041

Scale:  
as noted

Date:  
Oct. 31, 2022  
Dec. 2, 2022  
Mar. 6, 2023

Drawing #  
SS1.2



<b>LR Designs</b>	
DESIGNERS. ARCHITECTS. DEVELOPMENT ADVISORS	68 ALLSTON STREET, SUITE 5
617.588.2115	CAMBRIDGE, MA 02118
LRDESIGNS.NEWS	LRDESIGNS.COM
Project Title:	99 Mass Ave Arlington, MA
Drawing Title:	RENDERED ELEVATION OPTION 2
Revisions:	# Description date
Project #	21041
Scale:	1/4" = 1'-0"
Date:	Oct. 31, 2022 Dec. 2, 2022 Mar. 6, 2023
Drawing #	<b>R</b> ENDER



**LR Designs**  
INC.  
DESIGNERS ARCHITECTS PLANNERS DEVELOPMENT ADVISORS  
6A ALLSTON STREET, SUITE 5  
CAMBRIDGE, MA 02139  
617.588.2115  
LRDESIGNSINC.COM

**RENDERED ELEVATION  
OPTION 1**

**Project Title:** 99 Mass Ave  
Arlington, MA

**Drawing Title:** RENDER

**Revisions:**

#	Description	Date

**Project #:** 21041

**Scale:** 1/4" = 1'-0"

**Date:** Oct. 31, 2022  
Dec. 2, 2022  
Mar. 6, 2023

**Drawing #:** RENDER

# FLUSH WALL PANELS

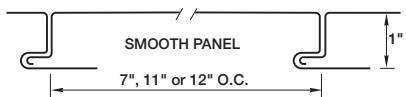
## MATERIALS

.032 aluminum	24 gauge steel
.040 aluminum*	22 gauge steel*

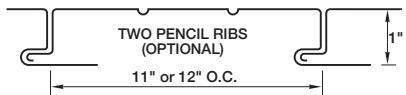
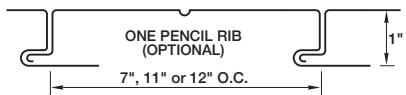
## SPECS

7", 11" or 12" O.C.      1" High

## FLUSH PANEL



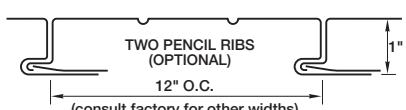
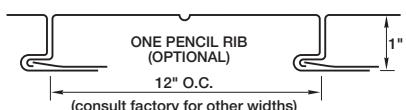
FLUSH PANEL



## FLUSH PANEL W/ CLIP (OPTIONAL)

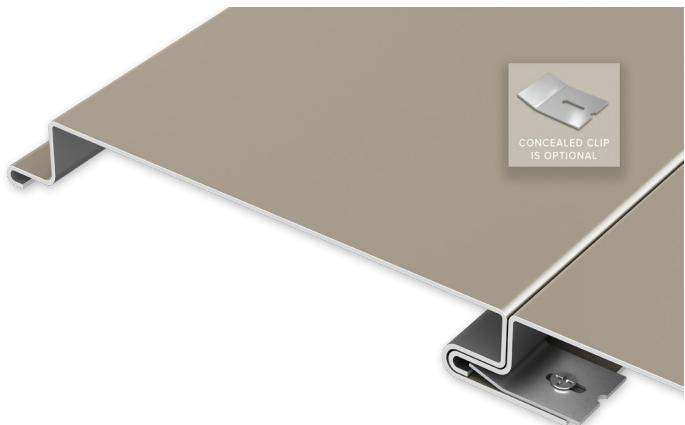
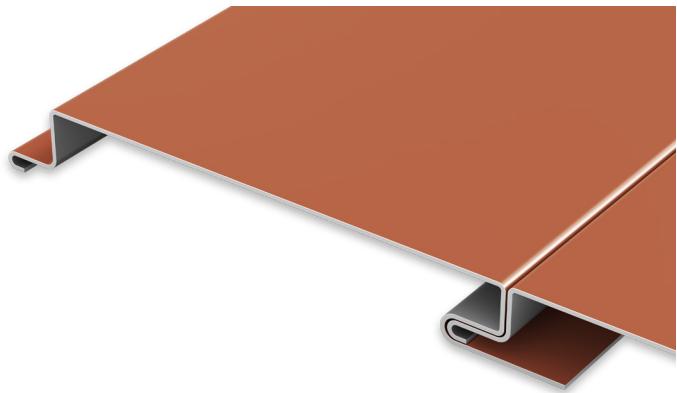


FLUSH PANEL W / CLIP (OPTIONAL)\*\*



\*Limited color availability. 12" O.C. has reduced fastening flange. A complete specification is available online at [pac-clad.com](http://pac-clad.com).

\*\*Clip is available only on 12" panels.



## PRODUCT FEATURES

- Leveled for flatness
- Available with up to two pencil ribs
- Rounded interlock leg provides improved flush fit
- 30-year non-prorated finish warranty
- Panel lengths from 4' to 25'

## MATERIAL

- 43 stocked colors (24 gauge steel)
- 16 Stocked colors (22 gauge steel)
- 36 stocked colors (.032 aluminum)
- 22 stocked colors (.040 aluminum)
- Galvalume Plus available

## ASTM TESTS - FLUSH

- ASTM E330 tested - 12" only
- ASTM 1592
- ASTM E283
- ASTM E331
- AAMA 501.1-05

## FLORIDA BUILDING PRODUCT APPROVALS

Please refer to [pac-clad.com](http://pac-clad.com) or your local factory for specific product approval numbers for Flush panels.



**PAC-CLAD®**

P E T E R S E N

A **CARLISLE** COMPANY



FOREST GREEN



HARTFORD GREEN



▲ MILITARY BLUE



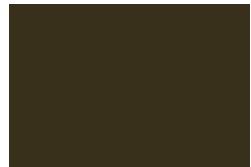
BERKSHIRE BLUE



▲ PACIFIC BLUE  
(FKA Slate Blue)



AWARD BLUE



▲ AGED BRONZE



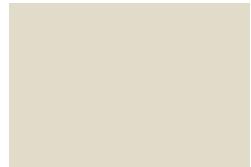
▲ MEDIUM BRONZE



▲ CARDINAL RED



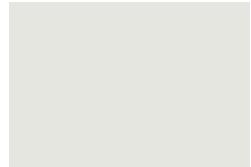
▲ COLONIAL RED



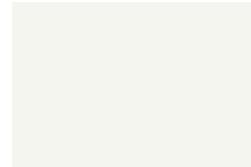
▲ SANDSTONE



▲ ALMOND



▲ STONE WHITE



▲ BONE WHITE

# Color Guide

[PAC-CLAD.COM](http://PAC-CLAD.COM)

# Premium Colors



●▲¤\$ ANODIC CLEAR



●▲¤\$ SILVERSMITH



●▲¤\$ SILVER



●▲¤\$ CHAMPAGNE



●▲¤\$ ZINC



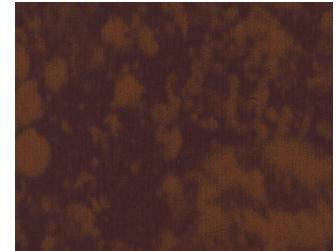
●▲¤\$ WEATHERED ZINC



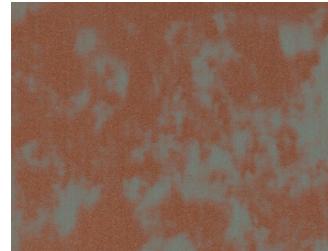
●▲¤\$ COPPER PENNY



●▲¤\$ AGED COPPER



¤\$ WEATHERED STEEL



¤\$ WEATHERED COPPER



▲ PATINA GREEN



▲ TEAL



▲ HEMLOCK GREEN



FOREST GREEN



HARTFORD GREEN



▲ EVERGREEN



▲ HUNTER GREEN



▲ ARCADIA GREEN



▲ MILITARY BLUE



BERKSHIRE BLUE



▲ GRAPHITE



▲ CHARCOAL



INTERSTATE BLUE



▲ PACIFIC BLUE  
(fka SLATE BLUE)



AWARD BLUE



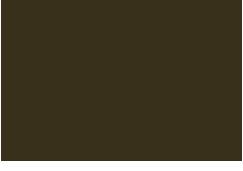
▲ MATTE BLACK STEEL



▲ BLACK ALUMINUM



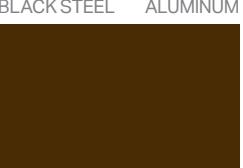
▲ DARK BRONZE



▲ BURNISHED SLATE



▲ AGED BRONZE



▲ MANSARD BROWN



▲ BURGUNDY



▲ TERRA COTTA



▲ CARDINAL RED



▲ COLONIAL RED



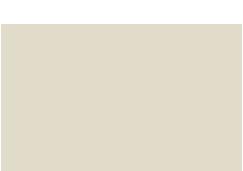
▲ MIDNIGHT BRONZE



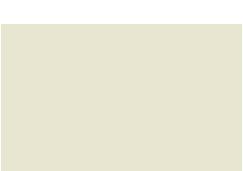
▲ MUSKET GRAY



▲ SIERRA TAN



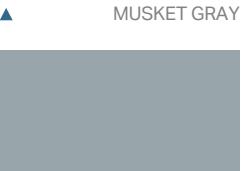
▲ SANDSTONE



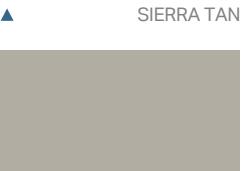
▲ ALMOND



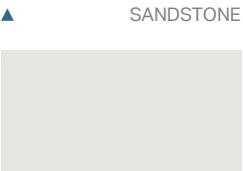
▲ SLATE GRAY



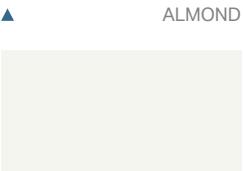
▲ CITYSCAPE



▲ GRANITE



▲ STONE WHITE



▲ BONE WHITE

Kynar 500® or Hylar 5000® pre-finished steel and aluminum for roofing, curtainwall and storefront applications.

● Metallic Colors    \$ Pricing    ▲ Cool Colors    ¤ Premium Colors

See back for color availability chart.

 **PAC-CLAD®**  
PETERSEN  
A CARLISLE COMPANY

IL: 800 PAC CLAD   TX: 800 441 8661   MD: 800 344 1400  
AZ: 833 750 1935   GA: 800 272 4482   WA: 253 501 2450  
29 of 187

**PAC-CLAD.COM**

# PAC-CLAD® Color Availability

PAC-CLAD STANDARD COLORS	REFLECTIVITY	EMISSIVITY	3 YEAR EXPOSURE	SRI	STEEL		ALUMINUM			20-IN. COIL	
					24 GA.	22 GA.	.032	.040	.050	.063	24 GA.
AGED BRONZE	0.29	0.87	0.27	29	✓						✓
ALMOND	0.56	0.86	0.55	65	✓	✓	✓	✓	✓		✓
ARCADIA GREEN	0.29	0.87	0.29	29	✓			✓			
AWARD BLUE***	0.24	0.86	0.23	22	✓		✓				
BERKSHIRE BLUE*	0.30	0.87	0.27	31	✓						
BLACK ALUMINUM**	0.04	0.89	0.04	-2			✓	✓	✓	✓	
BONE WHITE	0.70	0.86	0.69	85	✓	✓	✓	✓	✓	✓	✓
BURGUNDY	0.14	0.85	0.13	9	✓		✓		✓		
BURNISHED SLATE	0.32	0.87	0.31	33	✓						
CARDINAL RED***	0.44	0.86	0.44	49	✓		✓		✓		
CHARCOAL	0.30	0.86	0.30	30	✓		✓	✓	✓		✓
CITYSCAPE	0.49	0.86	0.50	56	✓	✓	✓	✓	✓		✓
COLONIAL RED	0.31	0.86	0.31	31	✓		✓	✓	✓		
DARK BRONZE	0.29	0.86	0.29	29	✓	✓	✓	✓	✓	✓	✓
EVERGREEN	0.28	0.86	0.26	27	✓		✓				
FOREST GREEN	0.10	0.86	0.10	4	✓	✓	✓	✓	✓		
GRANITE*	0.33	0.87	0.33	34	✓	✓	✓	✓	✓		
GRAPHITE	0.29	0.87	0.28	29	✓						
HARTFORD GREEN	0.08	0.88	0.08	3	✓		✓	✓	✓		
HEMLOCK GREEN	0.31	0.87	0.30	32	✓		✓		✓		
HUNTER GREEN	0.28	0.86	0.27	27	✓		✓				
INTERSTATE BLUE	0.16	0.87	0.15	12	✓		✓				
MANSARD BROWN	0.31	0.86	0.31	31	✓	✓	✓	✓	✓		
MATTE BLACK STEEL**	0.26	0.86	0.25	25	✓	✓					✓
MEDIUM BRONZE	0.30	0.87	0.29	31	✓	✓	✓	✓	✓	✓	✓
MIDNIGHT BRONZE	0.06	0.87	0.06	0	✓			✓			
MILITARY BLUE	0.31	0.86	0.30	31	✓		✓				
MUSKET GRAY	0.32	0.86	0.31	33	✓	✓	✓	✓			
PACIFIC BLUE	0.28	0.86	0.27	27	✓		✓				
PATINA GREEN	0.33	0.86	0.32	34	✓		✓				
SANDSTONE	0.48	0.86	0.48	54	✓	✓	✓	✓	✓	✓	✓
SIERRA TAN	0.32	0.82	0.31	31	✓	✓	✓	✓	✓		
SLATE GRAY	0.38	0.86	0.37	41	✓	✓	✓	✓	✓		
STONE WHITE	0.69	0.86	0.67	84	✓	✓	✓	✓	✓	✓	✓
TEAL	0.32	0.86	0.32	33	✓		✓				
TERRA COTTA	0.34	0.87	0.33	36	✓		✓			✓	✓
PAC-CLAD PREMIUM COLORS											
AGED COPPER	0.55	0.80	0.53	62	✓		✓				
ANODIC CLEAR	0.32	0.83	0.31	31				✓			
CHAMPAGNE	0.50	0.85	0.49	57	✓		✓	✓	✓		
COPPER PENNY	0.52	0.81	0.52	58	✓		✓	✓	✓		✓
SILVER	0.47	0.87	0.46	53	✓	✓	✓	✓	✓		
SILVERSMITH	0.32	0.88	0.32	34				✓			
WEATHERED COPPER	0.45	0.88	N/A	51	✓						
WEATHERED STEEL	0.32	0.89	N/A	34	✓						
WEATHERED ZINC	0.48	0.82	0.46	53	✓	✓	✓		✓		
ZINC	0.42	0.82	0.38	45	✓		✓	✓	✓		
CLEAR-COAT ACRYLIC FINISH (NON-KYNAR)											
GALVALUME PLUS	0.68	0.14	0.55	57	✓	✓					✓

PAC-CLAD Premium finishes are available from stock at a moderate extra cost. PAC-CLAD Copper Penny is a Non-Weathering finish. Solar Reflectance Index calculated according to ASTM E-1980.

\*Low Gloss/Low Sheen, 70% PVDF finish \*\* Appearance differs for Black Aluminum and Matte Black Steel \*\*\* 10-year finish warranty

#### TECHNICAL DATA FOR KYNAR 500/HYLAR 5000 COATING:

- South Florida Exposure: Color (ASTM D 2244) - No more than 5ΔE Hunter units at 20 years; Chalk (ASTM D 4214) - Rating no less than 8 at 20 years; Film integrity - 20 years.
- Accelerated Weathering (ASTM D 4587, ASTM G 154): 5000 Hours; Chalk, per ASTM D 4214, rating of 6 or better; Color, per ASTM D 2244, < 5ΔE (Hunter Units) color change.
- Humidity Resistance (ASTM D 2247): Galvalume or HDG, 100% RH, 2000 hours - No field blisters; Aluminum, 100% RH, 3000 hours - No field blisters
- Salt Spray Resistance (ASTM B 117): Aluminum: 3000 hours, creep from scribe no more than 1/16" (2mm), no field blisters. Galvalume or HDG: 2000 hours, creep from scribe no more than 1/8" (4mm), no field blisters
- Chemical/Acid Pollution Resistance (ASTM D 1308): Pass
- T-Bend (ASTM D 4145): 1T - 3T with no loss of adhesion
- Pencil hardness (ASTM D 3363): HB - 2H
- Specular Gloss (ASTM D 523) @ 60 degrees: Typical - 20 - 35
- Abrasion Resistance (ASTM D 968): 80 Liters/Mil +/- 5 Liters
- Cross Hatch Adhesion (ASTM D 3359): No loss of adhesion
- Reverse Impact (ASTM D 2794): Galvalume or HDG, 2x metal thickness inch-pounds, no loss of adhesion; Aluminum, 1.5x metal thickness inch-pounds, no loss of adhesion
- Flame Test (ASTM E 84): Class A Coating



**Town of Arlington, Massachusetts**  
Department of Planning & Community Development  
730 Massachusetts Avenue, Arlington, Massachusetts 02476

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## Public Hearing Memorandum

*The purpose of this memorandum is to provide the Arlington Redevelopment Board and public with technical information and a planning analysis to assist with the regulatory decision-making process.*

**To:** Arlington Redevelopment Board  
**From:** Claire Ricker, Secretary Ex Officio  
**Subject:** Update to Environmental Design Review, 99 Mass Ave, Arlington, MA, Docket #3728  
**Date:** March 2, 2023

---

This memo is provided as an update to the last memo provided on December 1, 2022. The following items were provided by the Applicant since the last hearing:

- Updated site diagram, floor plans, and elevations
- Shadow study

These items address the follow-up items requested by the ARB as follows:

- *Explore relocating the building signage to above the front entry;*  
The building identification sign has been moved from above the stair tower to immediately above the front entry (see Sheet A2.1).
- *Adjust the scale of the cornice between the office space use and residential use;*  
The cornice separating the two floors has been reduced in width as shown on Sheets A2.1 and A2.1a.
- *Consider adjusting the window pattern on the residential unit on the Lee Terrace façade (Lee Terrace);*  
This is addressed on Sheet A2.2. The previous middle column of windows on the front half of the residential unit has been eliminated and the width of the two proximate windows has been increased.

- *Add parking dimensions to the site plan;*

Parking dimension indicating six 8'6" by 18' tandem parking spaces are provided on Sheet Z0.2.

Additionally, the proposed bicycle parking locations have been adjusted. Regarding long-term bicycle parking, the applicant has proposed storage lockers capable of accommodating two bicycles adjacent to the vehicle parking. An additional two long-term bicycle parking spaces are proposed to be located inside the building and accessed through the ramp to the Ground Floor Plan as shown on Sheet EX1.1. Short term bicycle parking is provided for four bicycles at the corner of Massachusetts Avenue and Lee Terrace through two hitch-style posts (see Sheet Z0.1).

- *Consider an electric heat source;*

Heat and cooling sources are not indicated.

- *Consider Level 2 charger for electric vehicles;*

EV charger stations have not been identified in the parking area.

- *Please provide a shadow study to understand shadow impact on abutters;*

A shadow study has been provided. Note that there is no difference between shadows cast by the existing vs. the proposed building on the properties two parcels away (the nearest R2 properties).

- *Clarify the cladding materials – standing seam, aluminum, or light hooded copper;*

Cladding materials have not been identified.

- *Consider reducing the size of the parapet on upper levels and the height at the stair tower;*

Sheet A2.1a indicates a reduced parapet and shorter building height at the stair tower.

- *Consider going down to five parking spaces or somehow introducing 122 feet of landscaped open space;*

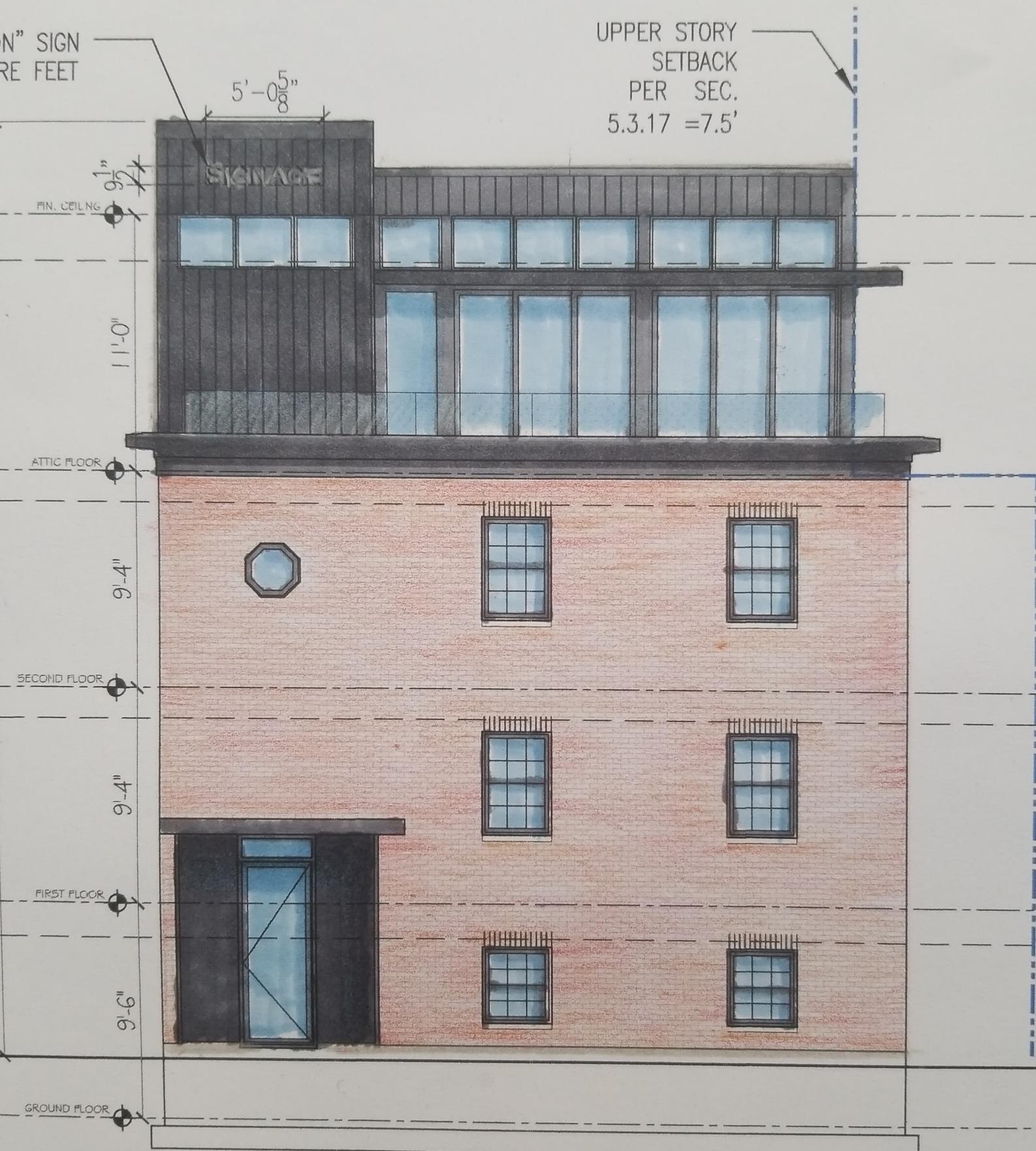
The applicant is providing 186 square feet of new landscaped area consisting of permeable ground cover along the rear and side property lines.

- *Replace the hexagonal window with the pattern of the other windows on the structure;*

A double-hung window is proposed in place of the preexisting hexagonal window (see Sheet A2.1).

- *Revise the dimension of the projection above the office entrance.*

Revised entry designs are shown on Sheet A2.1 and A2.1a.





**LEED v4.1 Residential: Multifamily**  
Project Checklist

Y	?	N	
0	1	0	<b>Integrative Process</b>
0	1	0	Credit (D) Integrative Process
			Option 1. Installation Contractor Training
			Option 2. Integrative Process
6	2	3	<b>Location and Transportation</b>
1	1	0	Credit (D) LEED for Neighborhood Development Location
1	0	0	Credit (D) Sensitive Land Protection
			Option 1. Previously Developed Land
1	1		Option 2. Avoidance of Sensitive Land
0	0	1	Credit (D) High-Priority Site
	1		Option 1. Historic District
	1		Option 2. Priority Designation
	1		Option 3. Brownfield Remediation
1	1	0	Credit (D) Surrounding Density and Diverse Uses
0	1	0	Option 1. Surrounding Density
	1		Case 1. Surrounding Density
	1		Case 2. Compact Development
1	1		Option 2. Diverse Use
1	1		Credit (D) Access to Quality Transit
1	1		Credit (D) Bicycle Facilities
0	1	1	Credit (C) Reduced Parking Footprint
	1		Option 1. No Off-Street Parking
	1		Option 2. Reduce Parking
	1		Option 3. Carshare
	1		Option 4. Unbundling Parking
2	0	1	Credit (C) Electric Vehicles
	1		Option 1. Electric Vehicle Charging
	1		Option 2. Electric Vehicle Charging Infrastructure
2			
2	2	3	<b>Sustainable Sites</b>
1	1	0	Prereq (C) Construction Activity Pollution Prevention
0	1	0	Credit (D) Site Assessment
	1		Option 1. On-Site Restoration
	1		Option 2. Financial Support
1	0	1	Credit (D) Open Space
	1		Option 1. Onsite Open Space
	1		Option 2. Access to Open Space
1	0	1	Credit (D) Rainwater Management
	1		Option 1. Percentile of Rainfall Events
	1		Option 2. Permeable Lot Area
2	1	0	Credit (D) Heat Island Reduction
0	0	0	Credit (D) Light Pollution Reduction
	1		Option 1. BUG Rating Method
	1		Option 2. Calculation Method
1	1	1	<b>Water Efficiency</b>
Y			Prereq (D) Water Use Reduction
Y			Prereq (D) Building-Level Water Metering
0	0	1	Credit (D) Water Use Reduction
	1		Option 1. Total Water Use Reduction
	1		Option 2. Outdoor and Indoor Water Use Reduction
	1		Path 1. Outdoor Water Use Reduction
2	4		Path 2. Indoor Water Use Reduction
1	1	0	Credit (C) Water Metering
	1		Option 1. Meter Water Subsystems
	1		Option 2. Meter Dwelling Units
6	6	4	<b>Energy and Atmosphere</b>
Y			Prereq (C) Fundamental Systems Testing and Verification
Y			Prereq (DC) Minimum Energy Performance
			Option 1. Energy Performance Compliance
			Option 2. Prescriptive Compliance
			Option 3. Dwelling Unit Energy Simulation
			Case 1. New Construction
			Case 2. Major Renovation
Y			Prereq (C) Energy Metering
Y			Prereq (D) Fundamental Refrigerant Management
3	2	2	Credit (C) Enhanced Commissioning
	1		Option 1. Supply Air-Flow Testing
	1		Option 2. Pressure Balancing
3			Option 3. Enhanced Commissioning
	1		Option 4. Enhanced and Monitoring-Based Commissioning
	1		Option 5. Envelope Commissioning
1	1	1	Credit (DC) Optimize Energy Performance
	1		Option 1. Energy Performance Compliance
	1		Option 2. New Buildings Institute Family Guide
1	1	0	Option 3. Dwelling Unit Energy Simulation
	1		Case 1. New Construction
	1		Case 2. Major Renovation
1	1		Credit (D) Whole Building Energy Monitoring and Reporting
0	0	1	Credit (C) Grid Harmonization
	1		Case 1. Demand Response Program Available and Participation
	1		Case 2. Demand Response Capable Building
	1		Case 3. Load Flexibility and Management Strategies
1	2		Credit (D) Renewable Energy
1	0	0	Credit (D) Enhanced Refrigerant Management
	1		Option 1. No Refrigerants or Low-Impact Refrigerants
	1		Option 2. Calculation of Refrigerant Impact
1	1		Credit (D) Domestic Hot Water Pipe Insulation

Project Name: 99 Mass Ave, Arlington, MA  
Date: 12/5/22

Y	?	N	
1	2	5	<b>Materials and Resources</b>
Y			Prereq (D) Storage and Collection of Recyclables
Y			Prereq (C) Construction and Demolition Waste Management Planning
0	1	1	Credit (C) Building Life-Cycle Impact Reduction
	1		Option 1. Historic Building Reuse
	1		Option 2. Renovation of Abandoned or Blighted Building
2			Option 3. Building and Material Reuse
1			Path 1. Maintain a combination of Structural and Non-Structural Elements
1			Path 2a. Maintain Existing Walls, Floors and Roofs
1			Path 2b. Maintain Interior Nonstructural Elements
1			Option 4. Whole-building Life-Cycle Assessment
0	1	3	Credit (C) Environmentally Preferable Products
	1		Option 1. Environmentally Preferable Products
	1		Option 2. BPDO - Environmental Product Declarations
3			Path 1. Environmental Product Declaration (EPD)
1			Path 2. Multi-Attribute Optimization
0	1	0	Path 3. BPDO - Sourcing of Raw Materials
	1		Path 1. Responsible Sourcing of Raw Materials
2	0	2	Option 4. BPDO - Material Ingredients
	1		Path 1. Material Ingredient Reporting
	1		Path 2. Material Ingredient Optimization
1	0	1	Credit (C) Construction and Demolition Waste Management
1	0	1	Option 1. Diversion
	1		Path 1a. Divert 50% and Three Material Streams
	1		Path 1b. Divert 50% using Certified Commingled Recycling Facility and One More Materials Stream
	1		Path 2a. Divert 75% and Four Material Streams
	1		Path 2b. Divert 75% using Certified Commingled Recycling Facility and Two More Materials Streams
	1		Option 2. Reduction of Total (Construction and Demolition) Waste Material

Y	4	2	
9	4	2	<b>Indoor Environmental Quality</b>
Y			Prereq (DC) Minimum Indoor Air Quality Performance
Y			Prereq (C) Combustion Venting
Y			Prereq (C) Garage Pollutant Protection
Y			Prereq (C) Radon-Resistant Construction
			Case 1. New Construction
			Case 2. Renovation of Existing Building
			Prereq (C) Interior Moisture Management
			Prereq (D) Environmental Tobacco Smoke Control
			Prereq (C) Compartmentalization
			Credit (C) Enhanced Compartmentalization
			Credit (D) No Environmental Tobacco Smoke
			Credit (D) Enhanced Indoor Air Quality Strategies
			Option 1. Walk-Off Mats
			Option 2. Filtration
			Option 3. Enhanced Local Exhaust
			Option 4. Balanced Whole-Dwelling Unit Ventilation
			Credit (C) Low-Emitting Materials
			Credit (C) Indoor Air Quality Assessment
			Option 1
			Option 2 (1 additional point)
			Credit (D) Thermal Comfort
			Option 1. Radiant Comfort
			Option 2. ASHRAE 55-2017
			Option 3. ISO Standards
			Credit (D) Daylight and Quality Views
			Option 1. Daylight
			Option 2. Quality Views
			Credit (D) Acoustic Performance
			Option 1. HVAC Background Noise
			Option 2. Envelope Acoustic Performance

0	1	3	
0	0	3	<b>Innovation</b>
	1		Credit (DC) Innovation
	1		Option 1. Innovation
	1		Option 2. Pilot
	1		Option 3. Additional Strategies
	1		Credit (DC) LEED Accredited Professional

0	0	0	
0	0	0	<b>Regional Priority</b>
0	0	0	Credit (DC) Regional Priority
			Type here to specify credit
0	0	0	Credit (DC) Regional Priority
			Type here to specify credit
0	0	0	Credit (DC) Regional Priority
			Type here to specify credit
0	0	0	Credit (DC) Regional Priority
			Type here to specify credit
0	0	0	Credit (DC) Regional Priority
			Type here to specify credit

**25 19 21 TOTALS** Possible Points: **110**

Certified: 40 to 49 points, Silver: 50 to 59 points, Gold: 60 to 79 points, Platinum: 80 to 110

(D) Design Prerequisite or Credit\*

(C) Construction Prerequisite or Credit†

\*Note that prerequisites and credits awarded during the design review are still subject to verification by the Green Rater during the site visit. If the status of the prerequisite or credit changes based on the site visit, the updated form and documentation must be submitted and reviewed by GBCI.

ZONING DATA PER §5.5.2 - TABLES OF DIMENSIONAL AND DENSITY REGULATIONS

	ZONING DISTRICT - B2 (MIXED-USE <= 20,000 SQ. FT.)	ALLOWED/ REQUIRED	EXISTING	PROPOSED	COMPLIANCE
A	MINIMUM LOT SIZE (S.F.)	----	±3,776	NO CHANGE	CONFORMS
B	MIN. FRONTAGE (FT)	50	40	NO CHANGE	EXISTING NON-CONF.
C	FLOOR AREA RATIO MAX. (FAR)	1.5 (3.0)	1.27	1.59	CONFORMS
D	LOT COVERAGE MAX. (%) 1,600 SF / 3,776 SF = 42	35	42	NO CHANGE	EXISTING NON-CONF.
E	MINIMUM LOT AREA PER DWELLING UNIT (S.F.)	NA	--	--	NA
F	MIN. FRONT YARD (FT) MASS AVE.	----	2.3	NO CHANGE	CONFORMS
G	MIN. FRONT YARD (FT) LEE TERR.	----	5.2	NO CHANGE	CONFORMS
	MIN. SIDE YARD - LEFT	----	2.8	NO CHANGE	CONFORMS
H	MIN. REAR YARD (FT)	10+(L/10) = 15	36.9	NO CHANGE	CONFORMS
I	MAX. HEIGHT (STORIES / FT)	4 / 50	3 / 34.1	4 / 40.5	CONFORMS
J	OPEN SPACE: MIN. LANDSCAPED AREA (%)	10	5	3.6	EXISTING NON-CONF.
K	OPEN SPACE: MIN. USABLE AREA (%)	20	NONE	0	
S6.1. 4	MIN. NO. OF PARKING SPACES	5	6	NO CHANGE	CONFORMS

PARKING CALCULATION:

EXISTING SPACES PROVIDED:

6

4,800 SF

PARKING REQUIRED:  
BUSINESS USE: 1/500 GSF  
Mixed-Use development parking  
exemption per Section 6.1.10.C

-3,000 SF

TOTAL  
NEW RESIDENTIAL USE: 1 DU/1.5

1,800 SF

TOTAL SPACES REQUIRED

= 4

= 1.5

= 6

BICYCLE PARKING CALCULATION:

EXISTING SPACES PROVIDED:

0

PARKING REQUIRED:

LONG-TERM:

OFFICE/BUSINESS USE: 0.3/1,000 GSF

= 1.5

NEW RESIDENTIAL USE: 1.5/1 DU

= 1.5

TOTAL SPACES REQUIRED

= 3

SHORT-TERM:

OFFICE/BUSINESS USE: 0.5/1,000 GSF

= 2.5

NEW RESIDENTIAL USE: 0.1/1 DU

= 0.1

TOTAL SPACES REQUIRED

= 3

PROJECT DESCRIPTION:

99 MASS AVE., ARLINGTON, MA IS CURRENTLY A PROFESSIONAL OFFICE BUILDING; PRIMARILY BUSINESS USE "B". IT CONTAINS APPROXIMATELY 4,800 GROSS SQUARE FEET ON THREE LEVELS, WITH TWO LEVELS ABOVE THE GRADE PLANE AND ONE LEVEL ONE-HALF STORY BELOW. THE BUILDING IS NOT CURRENTLY SPRINKLERED.

WORK INCLUDES CONSTRUCTION OF A DWELLING UNIT IN THE CURRENT ATTIC LEVEL. THIS WORK SHALL INCLUDE EXTENDING THE STAIRS TO THE THIRD FLOOR, NEW PARTITIONS, NEW BATHROOM AND EXTENDING SYSTEMS TO THE THIRD LEVEL. WORK WILL INCLUDE BUILDING A FOURTH LEVEL AND BALCONY.

PROJECT ASSUMPTIONS:

Zoning:

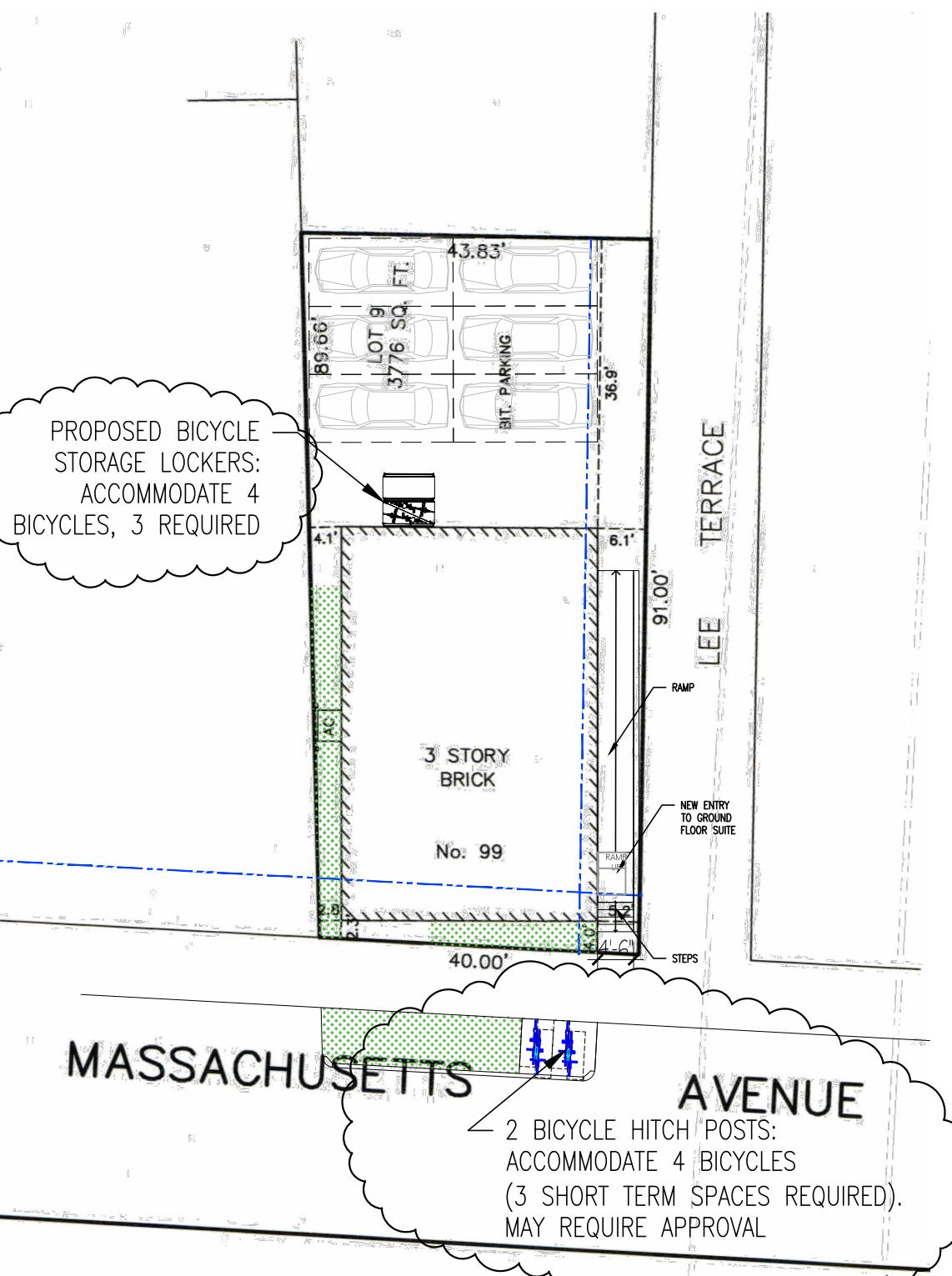
Mixed-Use <= 20,000SF:

- Increased FAR
- 3,000SF Parking Calculation Deduction
- Requires Special Permit
- 4 Stories
- 4th Story Step-back
- Existing Parking

Life Safety:

Recommend Automatic Sprinkler System:

- Increased Travel Distance
- Allows Uses above Grade Plane



ZONING SITE DIAGRAM

1" = 20'

SITE DIAGRAM BASED ON SURVEY BY:  
AGH ENGINEERING, STOUGHTON, MA  
FEB. 3 2016

Project Title:

99 Mass Ave  
Arlington, MA

Drawing Title:

Zoning Information

Revisions:

# Description date

Project #

21041

Scale:

as noted

Date:

Oct. 31, 2022

Dec. 2, 2022

Drawing #

Z0.1

LR Designs Inc.  
DESIGNERS, ARCHITECTS, DEVELOPMENT ADVISORS

64 ALLSTON STREET, SUITE 3  
CAMBRIDGE, MA 02139  
617.588.2113  
LRDDESIGNING.COM

99 Mass Ave  
Arlington, MA

Project Title:

**PROPOSED BICYCLE  
PARKING**

Drawing Title:

**Revisions:**  
# Description date

**Project #** 21041  
**Scale:** none  
**Date:** Oct. 31, 2022  
Dec. 2, 2022  
**Drawing #** A2.5



BICYCLE HITCH POST



BICYCLE LOCKERS

A

B

C

D



**Town of Arlington, Massachusetts**  
Department of Planning & Community Development  
730 Massachusetts Avenue, Arlington, Massachusetts 02476

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## **Public Hearing Memorandum**

*The purpose of this memorandum is to provide the Arlington Redevelopment Board and public with technical information and a planning analysis to assist with the regulatory decision-making process.*

**To:** Arlington Redevelopment Board  
**From:** Claire Ricker, Secretary Ex Officio  
**Subject:** Environmental Design Review, 99 Massachusetts Avenue, Arlington, MA, Docket #3728  
**Date:** December 1, 2022

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### **I. Docket Summary**

This is an application by 99 Massachusetts Ave LLC, 99 Massachusetts Avenue, Arlington, MA to open Special Permit Docket #3728 for the conversion of an existing office building to mixed-use by converting the attic to one residential unit at 99 Massachusetts Avenue in the B2 Neighborhood Business District. The opening of the hearing is to allow the Board to review and approve the development under Section 3.4, Environmental Design Review and Section 6.2, Signs of the Arlington Zoning Bylaw.

The Applicant proposes to convert a currently unfinished attic space to a 1,220 square foot two-bedroom residential unit. A building identification sign is proposed for the façade of the new residential unit. All existing commercial office space would remain, although the front entry and interior stair would be renovated, and a new entry and ADA ramp would be constructed for the ground floor commercial unit. The applicant also proposes to add building identification signage to the façade of the new residential unit. Vehicular parking is provided via a surface parking lot in the rear of the property with six parking spaces; the applicant has been asked to provide locations for bicycle parking on a revised site plan, which will be provided at the public hearing on December 5.

Materials submitted for consideration of this application:

- Application for EDR Special Permit, including an Environmental Impact Statement;
- Photos of existing condition and surrounding areas; and

- Site and Architectural Drawing Set, prepared by LR Designs, dated October 31, 2022.

II. Application of Special Permit Criteria (Arlington Zoning Bylaw, Section 3.3)

1. Section 3.3.3.A.

**The use requested is listed as a Special Permit in the use regulations for the applicable district or is so designated elsewhere in this Bylaw.**

Mixed-use is allowed by Special Permit in the B2 Neighborhood Business District. The Zoning Bylaw, in Section 5.5.1.D, indicates that the district's predominant uses include small retail and service establishments serving the needs of adjacent neighborhoods and oriented to pedestrian traffic, and mixed-use buildings, which are allowed and encouraged on Massachusetts Avenue. Mixed-use is a combination of two or more distinct land uses, such as those proposed by this applicant.

The Board can find that this condition is met.

2. Section 3.3.3.B.

**The requested use is essential or desirable to the public convenience or welfare.**

The requested use is essential and desirable. The second key finding in the Master Plan notes that "Massachusetts Avenue has the capacity for growth. It can support mixed-use development commensurate with its function as Arlington's primary commercial corridor. Massachusetts Avenue is accessible to neighborhoods throughout the town; it has frequent bus service, bicycle routes, and good walkability. Increased density through greater building heights and massing would benefit the corridor from an urban design perspective and benefit the town from a fiscal perspective" (p.8).

This proposal will provide one new two-bedroom residential unit with no change to the amount of commercial space provided. New housing opportunities, including market-rate homes, are needed in the community; while this proposal provides only one unit, it nevertheless helps address that demand.

The ground, first, and second floor commercial spaces will remain and be improved through renovated ground and first floor entries, including the provision of an ADA accessible ramp to the ground floor commercial unit. Overall, there will be no net change to the 4,800 square feet of commercial space.

The Board can find that this condition is met.

3. Section 3.3.3.C.

**The requested use will not create undue traffic congestion or unduly impair pedestrian safety.**

The proposed project does not change the number of parking spaces provided. Six tandem spaces are currently provided in a surface lot at the rear of the site, accessed from Lee Terrace. Regarding bicycle parking, the applicant has indicated they will provide an updated bicycle parking plan at the December 5, 2022, hearing. Bicycle parking is not currently provided on site. It is not expected that the proposed project will unduly impair pedestrian safety.

**4. Section 3.3.3.D.**

**The requested use will not overload any public water, drainage or sewer system or any other municipal system to such an extent that the requested use or any developed use in the immediate area or in any other area of the Town will be unduly subjected to hazards affecting health, safety, or the general welfare.**

The proposed use would add one residential unit to an existing office building, which has been on the site for many years and has not overloaded any public utilities. The Board can find that this condition is met.

**5. Section 3.3.3.E.**

**Any special regulations for the use as may be provided in the Bylaw are fulfilled.**

No special regulations are applicable to this proposal. The Board can find that this condition is met.

**6. Section 3.3.3.F.**

**The requested use will not impair the integrity or character of the district or adjoining districts, nor be detrimental to the health or welfare.**

The proposed addition largely maintains the existing façade for the ground, first, and second floors of the building. The renovated entry appears to use similar materials and reflects the design of the proposed fourth floor addition. The redevelopment of the attic space as a residential unit will not impair the integrity or character of the district or the adjoining districts and it will not be detrimental to health or welfare. The proposed structure is generally consistent with the Design Standards for the Town of Arlington.

The proposed mixed-use building is in keeping with adjacent land uses. Both Massachusetts Avenue and Lee Terrace include residential uses. The new residential unit and conversion of the building to mixed-use will not impair the integrity or character of the district, or the adjoining districts and it will not be detrimental to health or welfare.

**7. Section 3.3.3.G.**

**The requested use will not, by its addition to a neighborhood, cause an excess of the use that could be detrimental to the character of said neighborhood.**

The use will not be in excess or detrimental to the character of the neighborhood. The Board can find this condition is met.

### III. Environmental Design Review Standards (Arlington Zoning Bylaw, Section 3.4)

#### 1. EDR-1 Preservation of Landscape

**The landscape shall be preserved in its natural state, insofar as practicable, by minimizing tree and soil removal, and any grade changes shall be in keeping with the general appearance of neighboring developed areas.**

The existing property is nearly entirely impervious with the exception of grass strips around the front and sides of the building. There is no natural landscape to preserve with the building and parking lot fully saturating the parcel. The landscaping along the Lee Terrace façade will be removed to provide ADA access to the building. The remaining landscaped areas will be improved with new planting. The Board can find this condition is met.

#### 2. EDR-2 Relation of the Building to the Environment

**Proposed development shall be related harmoniously to the terrain and to the use, scale, and architecture of the existing buildings in the vicinity that have functional or visible relationship to the proposed buildings. The Arlington Redevelopment Board may require a modification in massing so as to reduce the effect of shadows on the abutting property in an R0, R1 or R2 district or on public open space.**

There are a range of architectural styles and zoning districts in the vicinity. The property is in the B2 Zoning District, but within 200 feet are the R1, R2, R3, and B1 Zoning Districts. As such, building heights in the vicinity range from single-story to three and three and a half stories. The primary façade of the building will largely be preserved; however, the entry will be renovated to reflect the design of the fourth floor addition. The applicant proposes to remove the sloped roof and convert the attic to a full fourth floor, which will be set back from the principal façade and Lee Terrace by 7.5 feet.

The applicant has not indicated materials to be used for the addition, however the drawings indicate that a material other than brick will be used. The building includes differentiation and stepping back of the upper story addition, which is encouraged in the Arlington Design Standards. The step-back area is proposed to be used as a balcony for the residential unit, and protected via a glass rail. Along Lee Terrace, the design of the fourth floor is similarly differentiated, although windows of the addition are aligned with the lower story windows.

The renovation of the principal entry improves the relationship between the upper-story addition and the overall building design, and improves the interaction between the sidewalk and the building.

99 Massachusetts Avenue is under the jurisdiction of the Arlington Historical Commission, which will need to review the building design.

The Applicant is proposing a floor area ratio (FAR) of 1.59. The existing building's FAR is 1.27. The Zoning Bylaw allows a maximum FAR of 3.0 for a mixed-use building on a lot less than 20,000 square feet in this zoning district. The proposed height of 40.5 feet is less than the maximum of 50 feet allowed in the Zoning Bylaw.

The Board can find this condition is met.

**3. EDR-3 Open Space**

**All open space (landscaped and usable) shall be so designed as to add to the visual amenities of the vicinity by maximizing its visibility for persons passing by the site or overlooking it from nearby properties. The location and configuration of usable open space shall be so designed as to encourage social interaction, maximize its utility, and facilitate maintenance.**

As noted above, the proposed project will eliminate one strip of pervious area on the Lee Terrace façade in order to provide ADA access to the building, although landscaping will be improved and added to the front and opposite side façade. The property currently has 220 square feet of landscaped area, and 220 square feet of landscaped area is proposed, however because open space is calculated based on gross floor area, the percentage of landscaped open space will be reduced from 4.6% to 3.7%, which is less than the 10% landscaped open space requirement.

The property does not currently have any usable open space, as usable open space is not required for commercial area. The applicant is seeking a waiver from the usable open space requirement as there is no area on the property in which a 25 by 25 square foot usable open space could be introduced, and the residential unit will have access to a 243 square foot balcony.

Lastly, the applicant seeks relief from the required 10-foot landscaped buffer in Section 5.3.21, as a landscaped buffer is precluded by the applicant's need to provide parking on-site in a surface parking lot that extends to the front façade of the abutting property in the R3 District.

**4. EDR-4 Circulation**

**With respect to vehicular and pedestrian and bicycle circulation, including entrances, ramps, walkways, drives, and parking, special attention shall be given to location and number of access points to the public streets (especially in relation to existing traffic controls and mass transit facilities), width of interior drives and access points, general interior circulation, separation of pedestrian and vehicular traffic, access to community facilities, and arrangement of vehicle parking and bicycle parking areas, including bicycle parking spaces required by Section 6.1.12 that are safe and convenient and, insofar as practicable, do not detract from the use and enjoyment of proposed buildings and structures and the neighboring properties.**

The property presently includes a total of 6 vehicle and no bicycle parking spaces. The surface parking lot provides 6 spaces for tandem parking for vehicles. Parking access is provided from Lee Terrace. The applicant has not proposed to change the parking lot.

The parking requirement is for mixed-use which calculates the parking required for each individual use; the parking required for the residential use totals 1 parking space, and while the commercial office space would typically require 10 parking spaces, the first 3,000 square feet of non-residential space in mixed-use buildings is exempt from the parking requirements per Section 6.1.10.C.

Pedestrian access to the building would be improved, as a new accessible entry to the ground floor office suite is proposed.

Regarding bicycle parking, the applicant did not propose new short-term or long-term bicycle parking with their original proposal, however it is expected that a plan for bicycle parking will be provided as part of the hearing on December 5.

<b>Vehicle Parking Requirements*</b>			
<b>Residential Use</b>	<b>Number of Units</b>	<b>Zoning Requirement</b>	<b>Total Parking Required</b>
Housing unit	1	1	1
<b>Commercial</b>	Square feet	Zoning Requirement	Total Parking Required
Office	4800	1 per 500sf	4*
<b>Total Required Vehicle Parking</b>			<b>5</b>
<b>Total Proposed Vehicle Parking</b>			<b>6</b>

<b>Bicycle Parking Requirements</b>		
<b>Use</b>	<b>Short-Term Parking</b>	<b>Long-Term Parking</b>
Residential	0.1	1.5
Office	2.4	1.44
Total Required Bicycle Parking	3	3
Total Proposed Bicycle Parking	n/a	n/a

The proposed project is highly accessible by transit, bike, and walking. The provided parking is intended for residential and office tenants, with visitors relying on on-street parking. As such, the impact of the trips is dispersed across Massachusetts Avenue.

##### **5. EDR-5 Surface Water Drainage**

Special attention shall be given to proper site surface drainage so that removal of surface waters will not adversely affect neighboring properties or the public storm drainage system. Available Best Management Practices for the site should be employed, and include site planning to minimize impervious surface and reduce

**clearing and re-grading. Best Management Practices may include erosion control and stormwater treatment by means of swales, filters, plantings, roof gardens, native vegetation, and leaching catch basins. Stormwater should be treated at least minimally on the development site; that which cannot be handled on site shall be removed from all roofs, canopies, paved and pooling areas and carried away in an underground drainage system. Surface water in all paved areas shall be collected in intervals so that it will not obstruct the flow of vehicular or pedestrian traffic and will not create puddles in the paved areas. In accordance with Section 3.3.4., the Board may require from any Applicant, after consultation with the Director of Public Works, security satisfactory to the Board to ensure the maintenance of all stormwater facilities such as catch basins, leaching catch basins, detention basins, swales, etc. within the site. The Board may use funds provided by such security to conduct maintenance that the Applicant fails to do. The Board may adjust in its sole discretion the amount and type of financial security such that it is satisfied that the amount is sufficient to provide for any future maintenance needs.**

There will be no changes to existing impervious conditions as part of this proposal. The application indicates that as part of the proposal, stormwater runoff from the roof will be routed to new in-ground structures. The Board may wish to request additional information about the proposed stormwater runoff system, however because there is no increase to impervious surface the proposed design complies with the Town's current stormwater bylaw.

**6. EDR-6 Utilities Service**

**Electric, telephone, cable TV, and other such lines of equipment shall be underground. The proposed method of sanitary sewage disposal and solid waste disposal from all buildings shall be indicated.**

All utility service will be provided through connections to existing utility lines adjacent to the site. The Board can find that this condition is met.

**7. EDR-7 Advertising Features**

**The size, location, design, color, texture, lighting and materials of all permanent signs and outdoor advertising structures or features shall not detract from the use and enjoyment of proposed buildings and structures and the surrounding properties.**

The application materials show a representative building identification sign on the façade of the proposed fourth floor addition. Under Section 6.2.1(E)(4), building identification signs not exceeding four square feet in area on mixed-use buildings are exempt from the Sign Bylaw.

Any future signage would be subject to review by the Department of Planning and Community Development, and possibly the Redevelopment Board, prior to the issuance of a sign permit. Additionally, if any lighting or other potential outdoor features relative to the building are proposed they should be provided.

**8. EDR-8 Special Features**

Exposed storage areas, exposed machinery installations, service areas, truck loading areas, utility buildings and structures, and similar accessory areas and structures shall be subject to such setbacks, screen plantings or other screening methods as shall reasonably be required to prevent their being incongruous with the existing or contemplated environment and the surrounding properties.

No special features are proposed. The Board can find that this condition is met.

**9. EDR-9 Safety**

With respect to personal safety, all open and enclosed spaces shall be designed to facilitate building evacuation and maximize accessibility by fire, police and other emergency personnel and equipment. Insofar as practicable, all exterior spaces and interior public and semi-public spaces shall be so designed to minimize the fear and probability of personal harm or injury by increasing the potential surveillance by neighboring residents and passersby of any accident or attempted criminal act.

The proposed building has been designed to meet all relevant health and safety codes. The Board can find that this condition is met.

**10. EDR-10 Heritage**

With respect to Arlington's heritage, removal, or disruption of historic, traditional or significant uses, structures or architectural elements shall be minimized insofar as practical whether these exist on the site or on adjacent properties.

The property at 99 Massachusetts Avenue is listed on the *Inventory of Historically or Architecturally Significant Properties in the Town of Arlington*. As such, this property is under the jurisdiction of the Arlington Historical Commission, which will need to review the building design. This permit shall be conditioned on their approval.

**11. EDR-11 Microclimate**

With respect to the localized climatic characteristics of a given area, any development which proposes new structures, new hard surface, ground coverage or the installation of machinery which emits heat, vapor or fumes shall endeavor to minimize insofar as practicable, any adverse impacts on light, air and water resources or on noise and temperature levels of the immediate environment.

There are no proposed changes that would affect the microclimate. The Board can find that this condition is met.

**12. EDR-12 Sustainable Building and Site Design**

Projects are encouraged to incorporate best practices related to sustainable sites, water efficiency, energy and atmosphere, materials and resources, and indoor environmental quality. Applicants must submit a current Green Building Council

**Leadership in Energy and Environmental Design (LEED) checklist, appropriate to the type of development, annotated with narrative description that indicates how the LEED performance objectives will be incorporated into the project.**

A LEED checklist was not provided; however, the applicant is intending to provide this information by the opening of the public hearing.

#### IV. Findings

The following findings are for the Board's consideration:

1. The ARB finds that the project is consistent with Environmental Design Review per Section 3.4 of the Zoning Bylaw.

#### V. Conditions

##### A. General

1. The final design, sign, exterior material, landscaping, and lighting plans shall be subject to the approval of the Arlington Redevelopment Board or administratively approved by the Department of Planning and Community Development. Any substantial or material deviation during construction from the approved plans and specifications is subject to the written approval of the Arlington Redevelopment Board.
2. Any substantial or material deviation during construction from the approved plans and specifications is subject to the written approval of the Arlington Redevelopment Board.
3. The Board maintains continuing jurisdiction over this permit and may, after a duly advertised public hearing, attach other conditions, or modify these conditions as it deems appropriate in order to protect the public interest and welfare.
4. Snow removal from all parts of the site, as well as from any abutting public sidewalks, shall be the responsibility of the owner and shall be accomplished in accordance with Town Bylaws.
5. Trash shall be picked up only on Monday through Friday between the hours of 7:00 am and 6:00 pm. All exterior trash and storage areas on the property, if any, shall be properly screened and maintained in accordance with Article 30 of Town Bylaws.
6. The Applicant shall provide a statement from the Town Engineer that all proposed utility services have adequate capacity to serve the development. The

applicant shall provide evidence that a final plan for drainage and surface water removal has been reviewed and approved by the Town Engineer.

7. Upon installation of landscaping materials and other site improvements, the Applicant shall remain responsible for such materials and improvement and shall replace and repair as necessary to remain in compliance with the approved site plan.
8. All utilities serving or traversing the site (including electric, telephone, cable, and other such lines and equipment) shall be underground.
9. Upon the issuance of the building permit the Applicant shall file with the Building Inspector and the Department of Community Safety the names and telephone numbers of contact personnel who may be reached 24 hours each day during the construction period.
10. This project must be further reviewed and approved by the Arlington Historical Commission.



TOWN OF ARLINGTON  
REDEVELOPMENT BOARD

Application for Special Permit In Accordance with Environmental Design  
Review Procedures (Section 3.4 of the Zoning Bylaw)

PLANNING & COMMUNITY  
DEVELOPMENT

102 NOV-3 P 12:22

TOWN CLERK'S OFFICE  
ARLINGTON, MA 01743

102 NOV-9 PM 2:50

Docket No. 3728

1. Property Address 99 Mass Ave  
Name of Record Owner(s) 99 Massachusetts ave llc Phone 617-272-0842  
Address of Owner 99 Mass ave, Arlington, MA  
Street City, State, Zip
2. Name of Applicant(s) (if different than above) James Rissling, LR Designs, Inc.  
Address 64 Allston Street #3 Phone (617)680-4595  
Status Relative to Property (occupant, purchaser, etc.) Architect
3. Location of Property 023 0001 0024  
Assessor's Block Plan, Block, Lot No.
4. Deed recorded in the Registry of deeds, Book       , Page       ;  
-or- registered in Land Registration Office, Cert. No.       , in Book       , Page       .
5. Present Use of Property (include # of dwelling units, if any) COMMERCIAL/OFFICE
6. Proposed Use of Property (include # of dwelling units, if any) MIXED-USE; COMMERCIAL/OFFICE & ONE DWELLING UNIT
7. Permit applied for in accordance with  
the following Zoning Bylaw section(s) 5.5.3  
                      
                      
section(s) title(s)
8. Please attach a statement that describes your project and provide any additional information that may aid the ARB in understanding the permits you request. Include any reasons that you feel you should be granted the requested permission.

(In the statement below, strike out the words that do not apply)

The applicant states that 99 Massachusetts ave llc is the owner -or- occupant -or- purchaser under agreement of the property in Arlington located at 99 Mass Ave which is the subject of this application; and that unfavorable action -or- no unfavorable action has been taken by the Zoning Board of Appeals on a similar application regarding this property within the last two years. The applicant expressly agrees to comply with any and all conditions and qualifications imposed upon this permission, either by the Zoning Bylaw or by the Redevelopment Board, should the permit be granted.

James Rissling

Signature of Applicant(s)

64 Allston Street #3, Cambridge, MA

(617) 588-2113 x700 (617) 680-4595

Address

Phone



Town of Arlington Redevelopment Board  
Application for Special Permit in accordance with  
Environmental Design Review (Section 3.4)

Required Submittals Checklist

Two full sets of materials and one electronic copy are required. A model may be requested. Review the ARB's Rules and Regulations, which can be found at [arlingtonma.gov/arb](http://arlingtonma.gov/arb), for the full list of required submittals.

- Dimensional and Parking Information Form (see attached)
- Site plan of proposal
- Model, if required
- Drawing of existing conditions
- Drawing of proposed structure
- Proposed landscaping. May be incorporated into site plan
- Photographs
- Impact statement
- Application and plans for sign permits
- Stormwater management plan (for stormwater management during construction for projects with new construction)

FOR OFFICE USE ONLY

- Special Permit Granted Date: \_\_\_\_\_
- Received evidence of filing with Registry of Deeds Date: \_\_\_\_\_
- Notified Building Inspector of Special Permit filing Date: \_\_\_\_\_

**TOWN OF ARLINGTON  
REDEVELOPMENT BOARD**

**Petition for Special Permit under Environmental Design Review (see Section 3.4 of the  
Arlington Zoning Bylaw for Applicability)**

For projects subject to Environmental Design Review, (see Section 3.4), please submit a statement that completely describes your proposal, and addresses each of the following standards.

1. **Preservation of Landscape.** The landscape shall be preserved in its natural state, insofar as practicable, by minimizing tree and soil removal, and any grade changes shall be in keeping with the general appearance of neighboring developed areas.
2. **Relation of Buildings to Environment.** Proposed development shall be related harmoniously to the terrain and to the use, scale, and architecture of existing buildings in the vicinity that have functional or visual relationship to the proposed buildings. The Arlington Redevelopment Board may require a modification in massing to reduce the effect of shadows on abutting property in an R0, R1 or R2 district or on public open space.
3. **Open Space.** All open space (landscaped and usable) shall be so designed as to add to the visual amenities of the vicinity by maximizing its visibility for persons passing the site or overlooking it from nearby properties. The location and configuration of usable open space shall be so designed as to encourage social interaction, maximize its utility, and facilitate maintenance.
4. **Circulation.** With respect to vehicular, pedestrian and bicycle circulation, including entrances, ramps, walkways, drives, and parking, special attention shall be given to location and number of access points to the public streets (especially in relation to existing traffic controls and mass transit facilities), width of interior drives and access points, general interior circulation, separation of pedestrian and vehicular traffic, access to community facilities, and arrangement of vehicle parking and bicycle parking areas, including bicycle parking spaces required by Section 8.13 that are safe and convenient and, insofar as practicable, do not detract from the use and enjoyment of proposed buildings and structures and the neighboring properties.
5. **Surface Water Drainage.** Special attention shall be given to proper site surface drainage so that removal of surface waters will not adversely affect neighboring properties or the public storm drainage system. Available Best Management Practices for the site should be employed, and include site planning to minimize impervious surface and reduce clearing and re-grading. Best Management Practices may include erosion control and storm water treatment by means of swales, filters, plantings, roof gardens, native vegetation, and leaching catch basins. Storm water should be treated at least minimally on the development site; that which cannot be handled on site shall be removed from all roofs, canopies, paved and pooling areas and carried away in an underground drainage system. Surface water in all paved areas shall be collected at intervals so that it will not obstruct the flow of vehicular or pedestrian traffic, and will not create puddles in the paved areas.

In accordance with Section 3.3.4, the Board may require from any applicant, after consultation with the Director of Public Works, security satisfactory to the Board to insure the maintenance of all storm water facilities such as catch basins, leaching catch basins, detention basins, swales, etc. within the site. The Board may use funds provided by such security to conduct maintenance that the applicant fails to do. The Board may adjust in its sole discretion the amount and type of financial security such that it is satisfied that the amount is sufficient to provide for the future maintenance needs.

6. **Utility Service.** Electric, telephone, cable TV and other such lines and equipment shall be underground. The proposed method of sanitary sewage disposal and solid waste disposal from all buildings shall be indicated.
7. **Advertising Features.** The size, location, design, color, texture, lighting and materials of all permanent signs and outdoor advertising structures or features shall not detract from the use and enjoyment of proposed buildings and structures and the surrounding properties. Advertising features are subject to the provisions of Section 6.2 of the Zoning Bylaw.

8. Special Features. Exposed storage areas, exposed machinery installations, service areas, truck loading areas, utility buildings and structures, and similar accessory areas and structures shall be subject to such setbacks, screen plantings or other screening methods as shall reasonably be required to prevent their being incongruous with the existing or contemplated environment and the surrounding properties.
9. Safety. With respect to personal safety, all open and enclosed spaces shall be designed to facilitate building evacuation and maximize accessibility by fire, police, and other emergency personnel and equipment. Insofar as practicable, all exterior spaces and interior public and semi-public spaces shall be so designed as to minimize the fear and probability of personal harm or injury by increasing the potential surveillance by neighboring residents and passersby of any accident or attempted criminal act.
10. Heritage. With respect to Arlington's heritage, removal or disruption of historic, traditional or significant uses, structures, or architectural elements shall be minimized insofar as practicable, whether these exist on the site or on adjacent properties.
11. Microclimate. With respect to the localized climatic characteristics of a given area, any development which proposes new structures, new hard-surface ground coverage, or the installation of machinery which emits heat, vapor, or fumes, shall endeavor to minimize, insofar as practicable, any adverse impact on light, air, and water resources, or on noise and temperature levels of the immediate environment.
12. Sustainable Building and Site Design. Projects are encouraged to incorporate best practices related to sustainable sites, water efficiency, energy and atmosphere, materials and resources, and indoor environmental quality. Applicants must submit a current Green Building Council Leadership in Energy and Environmental Design (LEED) checklist, appropriate to the type of development, annotated with narrative description that indicates how the LEED performance objectives will be incorporated into the project.  
[LEED checklists can be found at <http://www.usgbc.org/DisplayPage.aspx?CMSPageID=220b> ]

In addition, projects subject to Environmental Design Review must address and meet the following Special Permit Criteria (see Section 3.3.3 of the Zoning Bylaw):

1. The use requested is listed as a special permit in the use regulations for the applicable district or is so designated elsewhere in this Bylaw.
2. The requested use is essential or desirable to the public convenience or welfare.
3. The requested use will not create undue traffic congestion or unduly impair pedestrian safety.
4. The requested use will not overload any public water, drainage or sewer system or any other municipal system to such an extent that the requested use or any developed use in the immediate area or in any other area of the Town will be unduly subjected to hazards affecting health, safety or the general welfare.
5. Any special regulations for the use as may be provided in this Bylaw are fulfilled.
6. The requested use will not impair the integrity or character of the district or adjoining districts, nor be detrimental to the health, morals, or welfare.
7. The requested use will not, by its addition to a neighborhood, cause an excess of the particular use that could be detrimental to the character of said neighborhood.

**TOWN OF ARLINGTON**  
 Dimensional and Parking Information  
 for Application to  
 The Arlington Redevelopment Board

Docket No. 3728

Property Location 99 Mass Ave

Zoning District B-2

Owner: 99 Massachusetts ave LLC

Address: 99 Mass Ave

Present Use/Occupancy: No. of Dwelling Units:

Uses and their gross square feet:

Commercial/Office

Office: 4,800 gsf; Attic: 314 gsf

Proposed Use/Occupancy: No. of Dwelling Units:

Uses and their gross square feet:

Mixed-use: Commercial/Office & One Dwelling Unit

Office: 4,800 gsf; Dwelling Unit: 1,220 gsf

		<u>Present Conditions</u>	<u>Proposed Conditions</u>	<u>Min. or Max. Required by Zoning for Proposed Use</u>
Lot Size		3,776	3,776	min. ----
Frontage		40	40	min. 50
Floor Area Ratio		1.27	1.59	max. 1.5 (3.0)
Lot Coverage (%), where applicable		42	42	max. ----
Lot Area per Dwelling Unit (square feet)		na	na	min. ----
Front Yard Depth (feet)		2.3	2.3	min. ----
Side Yard Width (feet)	right side	5.2	5.2	min. ----
	left side	2.8	2.8	min. ----
Rear Yard Depth (feet)		36.9	36.9	min. 15
Height				min.
Stories		3	4	stories 4
Feet		34.1	40.5	feet 50
Open Space (% of G.F.A.)		5	3.6	min. 10
Landscaped (square feet)		220	220	(s.f.) 602 (0.10*6,020)
Usable (square feet)		0	0	(s.f.) 244 (0.20*1220)
Parking Spaces (No.)		6	6	min. 6
Parking Area Setbacks (feet), where applicable				min.
Loading Spaces (No.)		0	0	min. 0
Type of Construction		III-B & V-B		
Distance to Nearest Building		18'	18'	min.

99 Mass Ave, Arlington, MA: Impact Statement Regarding Special Permit for Mixed-Use Use

99 Mass Ave., Arlington, MA is currently a professional office building: primarily business use "B". It contains approximately 4,800 gross square feet on three levels, with two levels above the grade plane and one level one-half story below. Work includes construction of a dwelling unit at the current attic level. This work shall include extending new stairs to the fourth story, new exterior walls & partitions, a new bathroom, and kitchen, and extending systems to the new story. Work will include replacing the existing roof with a new story and balcony at the existing attic floor level.

Environmental Design Review:

1. Preservation of Landscape: The existing structure at 99 Mass Ave fills much of the front portion of the site and has very little landscape around the perimeter of the building, the available landscape area will be enhanced with new planting.
2. Relation of Building to Environment: This site is currently fully developed as are most of the sites surrounding it. The project site is in Business B-2 zoning district, abutting B-2 to the left and R-3 to the rear and right, across Lee Terrace. This section of Mass Ave consists of smaller scale commercial buildings and 2 ½ and 3 story residential structures containing both residential and commercial uses. The current building's first story is slightly below grade with two stories fully above grade. Although the first story is considered a story above grade, the impression of the building is that of a two and a half story. With the added story it will appear as three and a half story structure.
3. Open Space: The structure fills the front portion of the site, creating a street wall, with minimal bordering landscape. There will be no reduction to this area and what exists will be enhanced with new planting.
4. Circulation: Access to the building will be unchanged and the project presents no negative affect on the circulation of adjacent uses or structures.
5. Surface Water Drainage: Surface water shall be controlled during construction to prevent erosion or damage to site and adjacent sites. After construction, roof runoff shall be directed to new in ground structures. The addition of the new story does not increase the surface area of the site.
6. Utilities: Existing overhead utilities may be put underground if feasible. The existing sewer connection will be evaluated and maintained.
7. Advertising Features: There are no advertising features as part of the completed project.
8. Special Features: All features shall be residential in nature.
9. Safety: The new layouts featuring two side-by-side dwelling units will encourage physical and visual access of the surrounding yards and parking areas. The yard will remain fenced in to limit unwanted access into and through the site.
10. Heritage: The structure at 99 Mass Ave. is not historic, although the project intent is to update and enhance the existing structure, it's primary features will remain unchanged.
11. Microclimate: The additions to the existing house still leave much of the site open for landscape and outdoor enjoyment.
12. Sustainable Building and Site Design: The renovation and additions will be executed using best practices, durable materials and efficient systems resulting in efficient and practically new construction dwellings.

Special Permit Criteria:

1. The use requested is listed as a Special Permit in Section 5.5.3 Use Regulations for Business Districts.
2. The requested use is essential or desirable to the public convenience or welfare: The addition of a dwelling unit creates 24-hour use of the building, a use in harmony with other residences and offices in this part of Mass Ave.
3. The requested use will not create undue traffic congestion or unduly impair pedestrian safety: The single unit will have two bedrooms, appealing to a small household of 1 to 3 persons. The occupants will have convenient access to Mass Ave and available transportation.
4. The requested use will not overload any public water, drainage, or sewer system, or any other municipal system to such an extent that the requested use or any developed use in the immediate area or any other area of the Town will be unduly subjected to hazards affecting health, safety, or the general welfare: The dwelling unit is a complimentary use of the services provided to the office(s) by day; utilizing the same services at night and weekends.
5. Any special regulations for the use as may be provided in this Bylaw are fulfilled: 5.3.17 Upper Story Setback is met.
6. The requested use will not impair the integrity or character of the district or adjoining districts, nor be detrimental to the health or welfare: The addition of the dwelling unit within the new story will be in character with the various uses and varied architecture of the district.
7. The requested use will not, by its addition to a neighborhood, cause an excess of the use that could be detrimental to the character of said neighborhood: The neighborhood has a mix of uses, including dwellings, offices, and shops along Mass Ave. This project will be harmonious to the adjacent uses and will provide the potential of increased surveillance of the neighborhood.

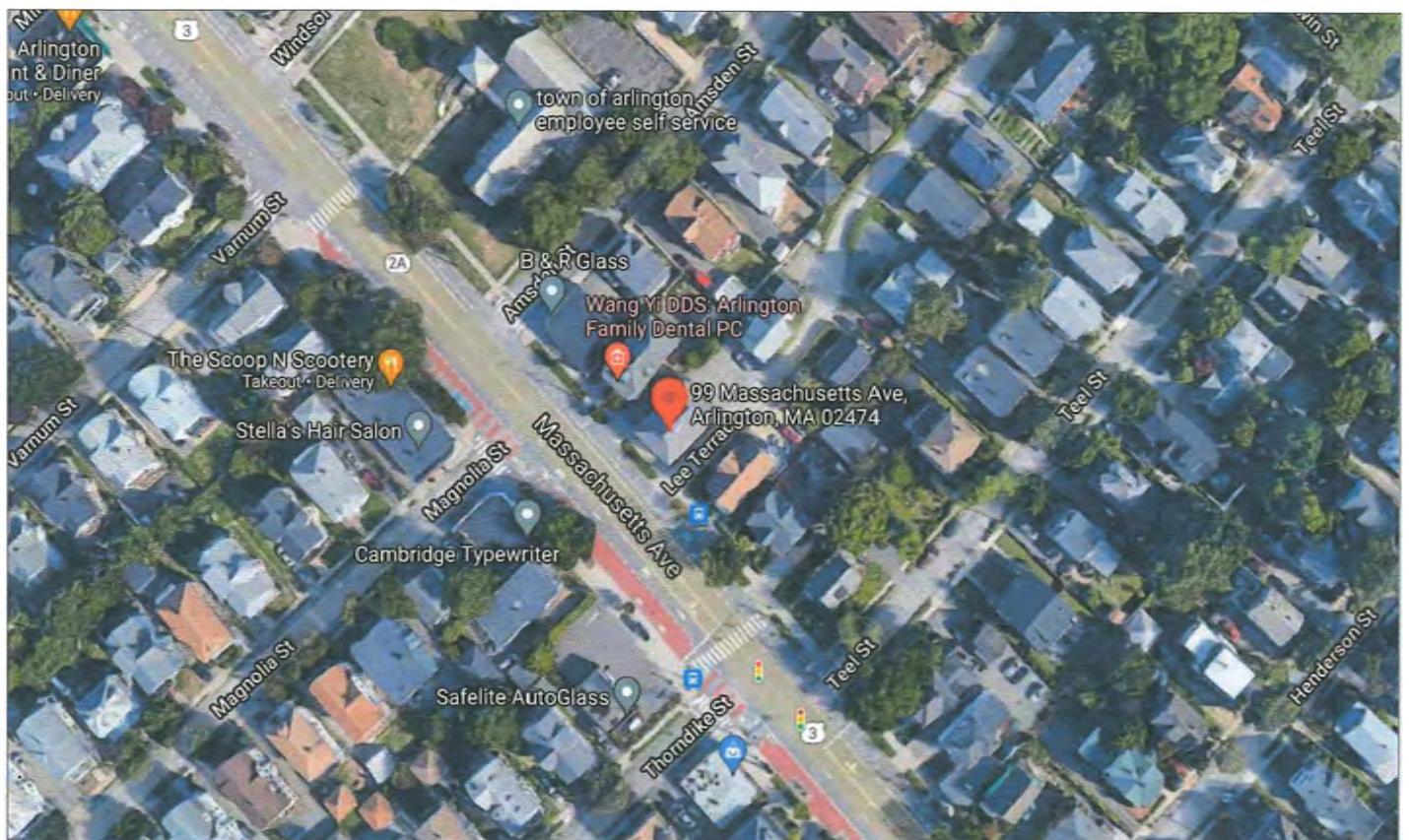
# LIST OF DRAWINGS



99 MASS AVE FRONT VIEW



99 MASS AVE REAR VIEW



## PROJECT LOCATION:

**99 Mass Ave  
Arlington, MA**

ZONING DISTRICT: BUSINESS B

	SPECIAL PERMIT
ISSUED	OCTOBER 31, 2022
COVER	●
Z0.1 ZONING INFORMATION: SITE DIAGRAM	●
EX1.1 EXISTING CONDITIONS: PLANS	●
EX1.1 EXISTING CONDITIONS: PLANS	●
EX(A)1.2 EXISTING & PROPOSED PLANS	●
EX2.1 EXISTING CONDITIONS: ELEVATIONS	●
EX2.2 EXISTING CONDITIONS: ELEVATIONS	●
A2.1 ELEVATIONS: EXISTING & PROPOSED	●
A2.2 ELEVATIONS: EXISTING & PROPOSED	●
A2.3 ELEVATIONS: EXISTING & PROPOSED	●
A2.4 ELEVATIONS: EXISTING & PROPOSED	●

## General Information

Project Title: 99 Mass Ave Arlington, MA

Drawing Title:

Revisions: # Description date

Project #: 21041

Scale: as noted

Date: Oct. 31, 2022

Drawing #: COVER



**LR Designs**  
INC.  
DESIGNERS ARCHITECTS DEVELOPMENT ADVISORS  
64 ALLSTON STREET, SUITE 3  
CAMBRIDGE, MA 02139  
617.588.2113  
LRDESIGNSINC.COM

ZONING DATA PER §5.5.2 - TABLES OF DIMENSIONAL AND DENSITY REGULATIONS

	ZONING DISTRICT - B2 (MIXED-USE <= 20,000 SQ. FT.)	ALLOWED/ REQUIRED	EXISTING	PROPOSED	COMPLIANCE
A	MINIMUM LOT SIZE (S.F.)	---	±3,776	NO CHANGE	CONFORMS
B	MIN. FRONTAGE (FT)	50	40	NO CHANGE	EXISTING NON-CONF.
C	FLOOR AREA RATIO MAX. (FAR)	1.5 (3.0)	1.27	1.59	CONFORMS
D	LOT COVERAGE MAX. (%) 1,600 SF / 3,776 SF = 42	35	42	NO CHANGE	EXISTING NON-CONF.
E	MINIMUM LOT AREA PER DWELLING UNIT (S.F.)	NA	--	--	NA
F	MIN. FRONT YARD (FT) MASS AVE.	---	2.3	NO CHANGE	CONFORMS
G	MIN. FRONT YARD (FT) LEE TERR.	---	5.2	NO CHANGE	CONFORMS
	MIN. SIDE YARD - LEFT	---	2.8	NO CHANGE	CONFORMS
H	MIN. REAR YARD (FT)	10+(L/10) = 15	36.9	NO CHANGE	CONFORMS
I	MAX. HEIGHT (STORIES / FT)	4 / 50	3 / 34.1	4 / 40.5	CONFORMS
J	OPEN SPACE: MIN. LANDSCAPED AREA (%)	10	5	3.6	EXISTING NON-CONF.
K	OPEN SPACE: MIN. USABLE AREA (%)	20	NONE	0	
§6.1. 4	MIN. NO. OF PARKING SPACES	5	6	NO CHANGE	CONFORMS

PARKING CALCULATION:

EXISTING SPACES PROVIDED:

6

PARKING REQUIRED:

BUSINESS USE: 1/500 GSF

4,800 SF

Mixed-Use development parking

exemption per Section 6.1.10.C

-3,000 SF

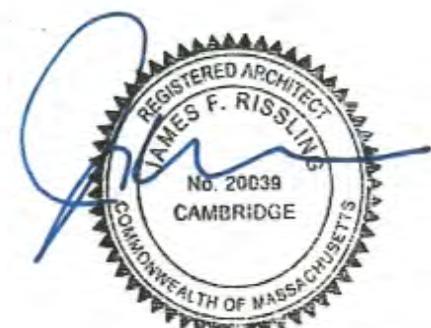
TOTAL 1,800 SF = 4

NEW RESIDENTIAL USE: 1 DU/1.5

TOTAL SPACES REQUIRED = 6

PROJECT DESCRIPTION:

99 MASS AVE., ARLINGTON, MA IS CURRENTLY A PROFESSIONAL OFFICE BUILDING; PRIMARILY BUSINESS USE "B". IT CONTAINS APPROXIMATELY 4,800 GROSS SQUARE FEET ON THREE LEVELS, WITH TWO LEVELS ABOVE THE GRADE PLANE AND ONE LEVEL ONE-HALF STORY BELOW. WORK INCLUDES CONSTRUCTION OF A DWELLING UNIT AT THE CURRENT ATTIC LEVEL. THIS WORK SHALL INCLUDE EXTENDING THE STAIRS TO THE THIRD FLOOR, NEW EXTERIOR WALLS & PARTITIONS, A NEW BATHROOM AND KITCHEN, AND EXTENDING SYSTEMS TO THE FOURTH LEVEL. WORK WILL INCLUDE REPLACING THE EXISTING ROOF WITH A NEW STORY AND BALCONY AT THE EXISTING ATTIC FLOOR LEVEL.



PROJECT ASSUMPTIONS:

Zoning:

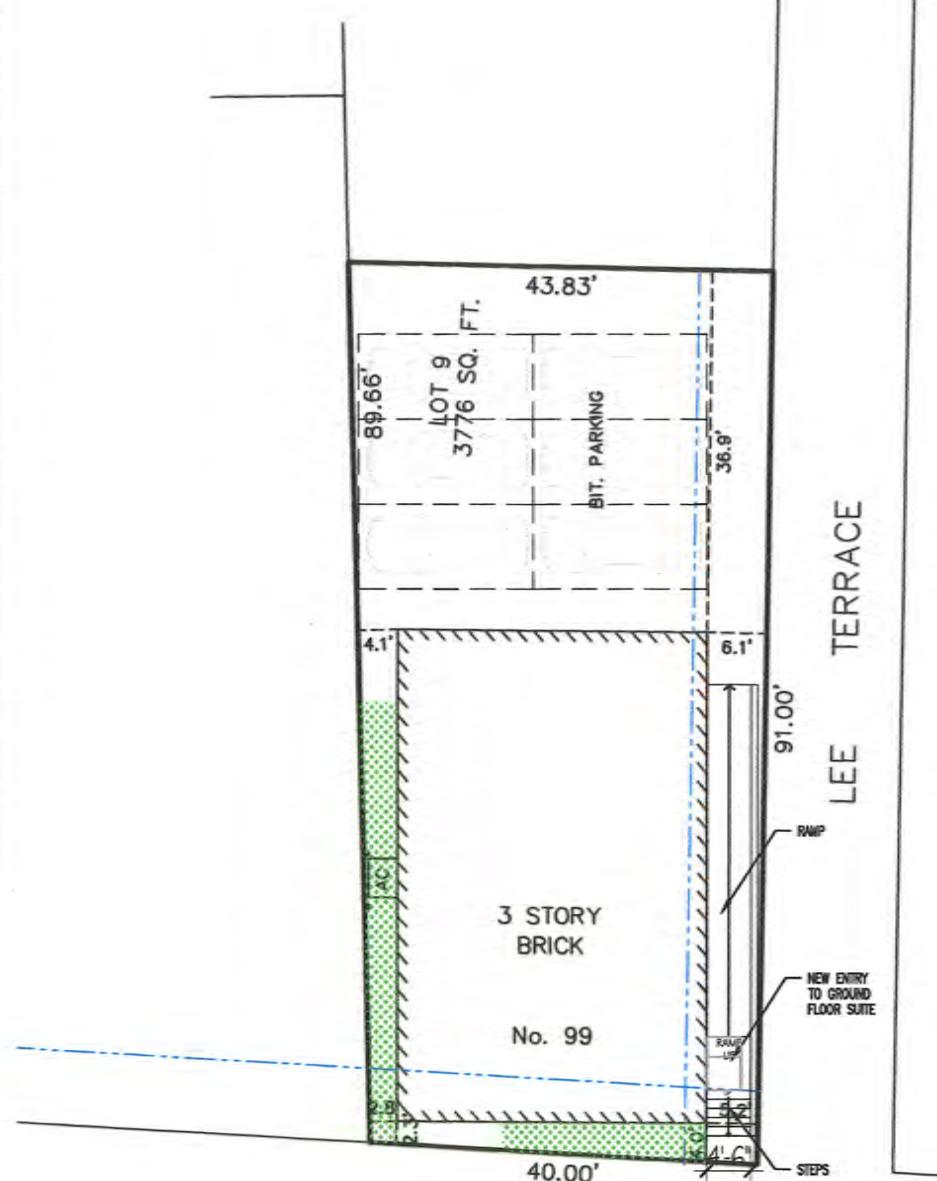
Mixed-Use <= 20,000SF:

- Increased FAR
- -3,000SF Parking Calculation Deduction
- Requires Special Permit
- 4 Stories
- 4th Story Step-back
- Existing Parking

Life Safety:

Recommend Automatic Sprinkler System:

- Increased Travel Distance
- Allows Uses above Grade Plane



MASSACHUSETTS AVENUE

ZONING SITE DIAGRAM

1" = 20'

SITE DIAGRAM BASED ON SURVEY BY:  
AGH ENGINEERING, STOUGHTON, MA  
FEB. 3 2016

**Zoning Information**

Drawing Title: 99 Mass Ave Arlington, MA

**LR Designs**  
INC.  
DESIGNERS, ARCHITECTS, DEVELOPMENT ADVISORS  
64 ALLSTON STREET, SUITE 202  
CAMBRIDGE, MA 02159  
617.588.2113  
LRDESIGNSINC.COM

Revisions:  
# Description date

Project # 21041

Scale: as noted

Date: Oct. 31, 2022

Drawing # Z0.1

**99 Mass Ave  
Arlington, MA**

**Photos**

Project Title: **99 Mass Ave  
Arlington, MA**

Drawing Title:

Revisions: **# Description date**

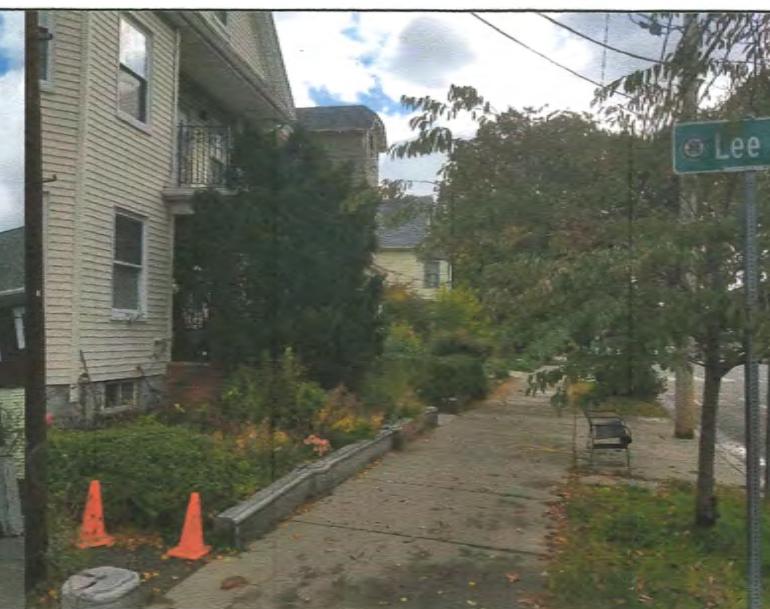
Project #: **21041**  
Scale: **as noted**  
Date: **Oct. 31, 2022**  
Drawing #: **P1.1**



**VIEW OF SOUTHWEST CORNER**



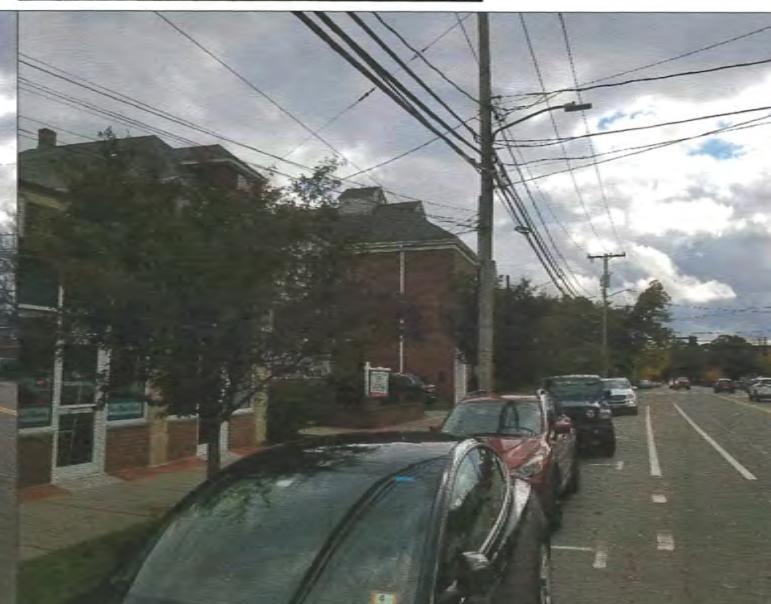
**VIEW OF NORTHEAST CORNER**



**VIEW ACROSS LEE TERRACE**

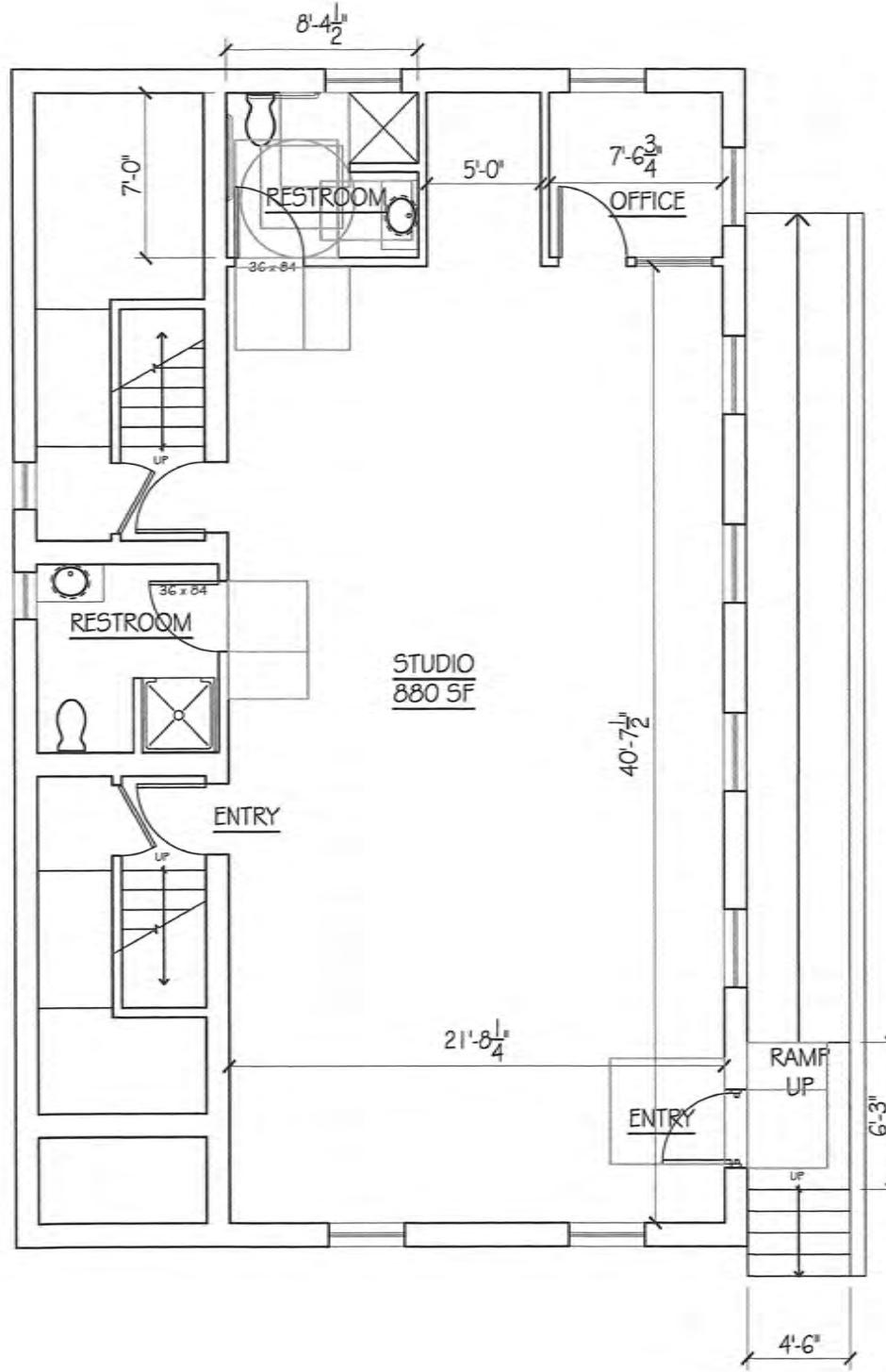


**VIEWS LOOKING DOWN MASS AVE**



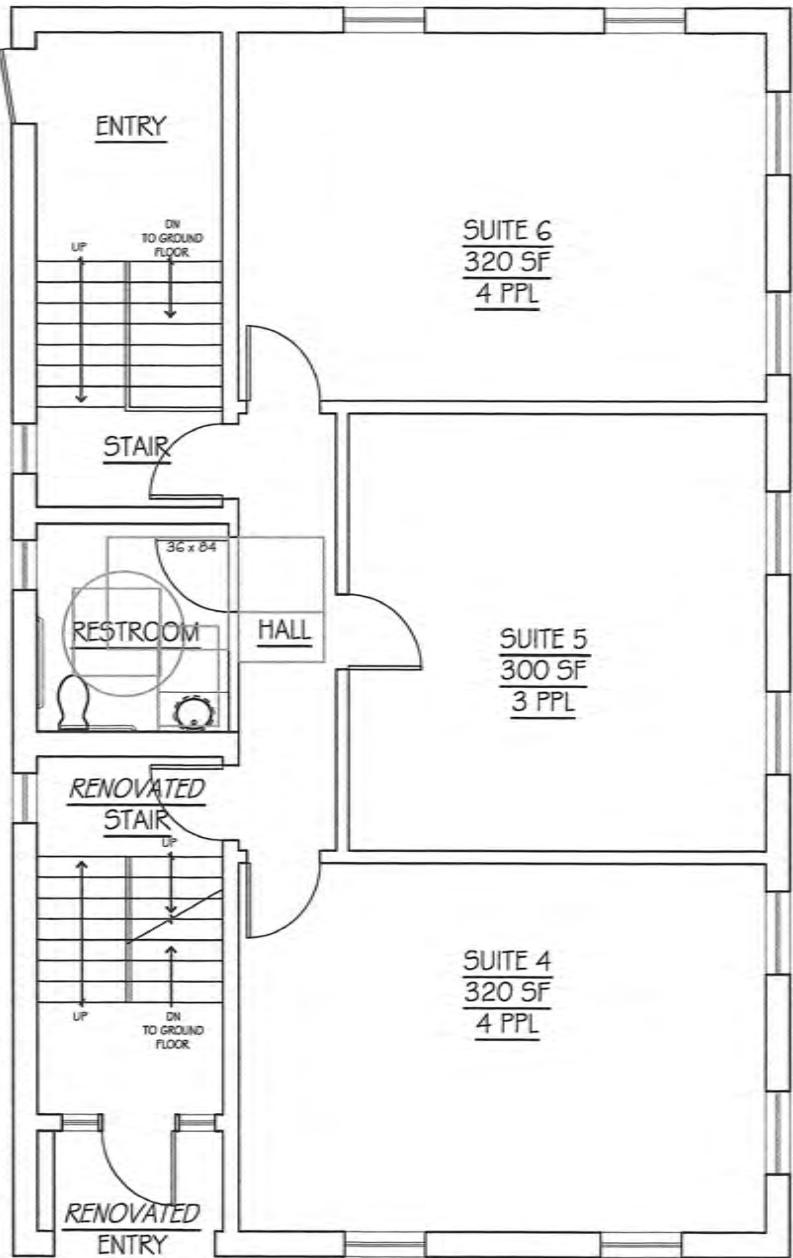
**VIEWS OF SOUTH SIDE OF MASS AVE**





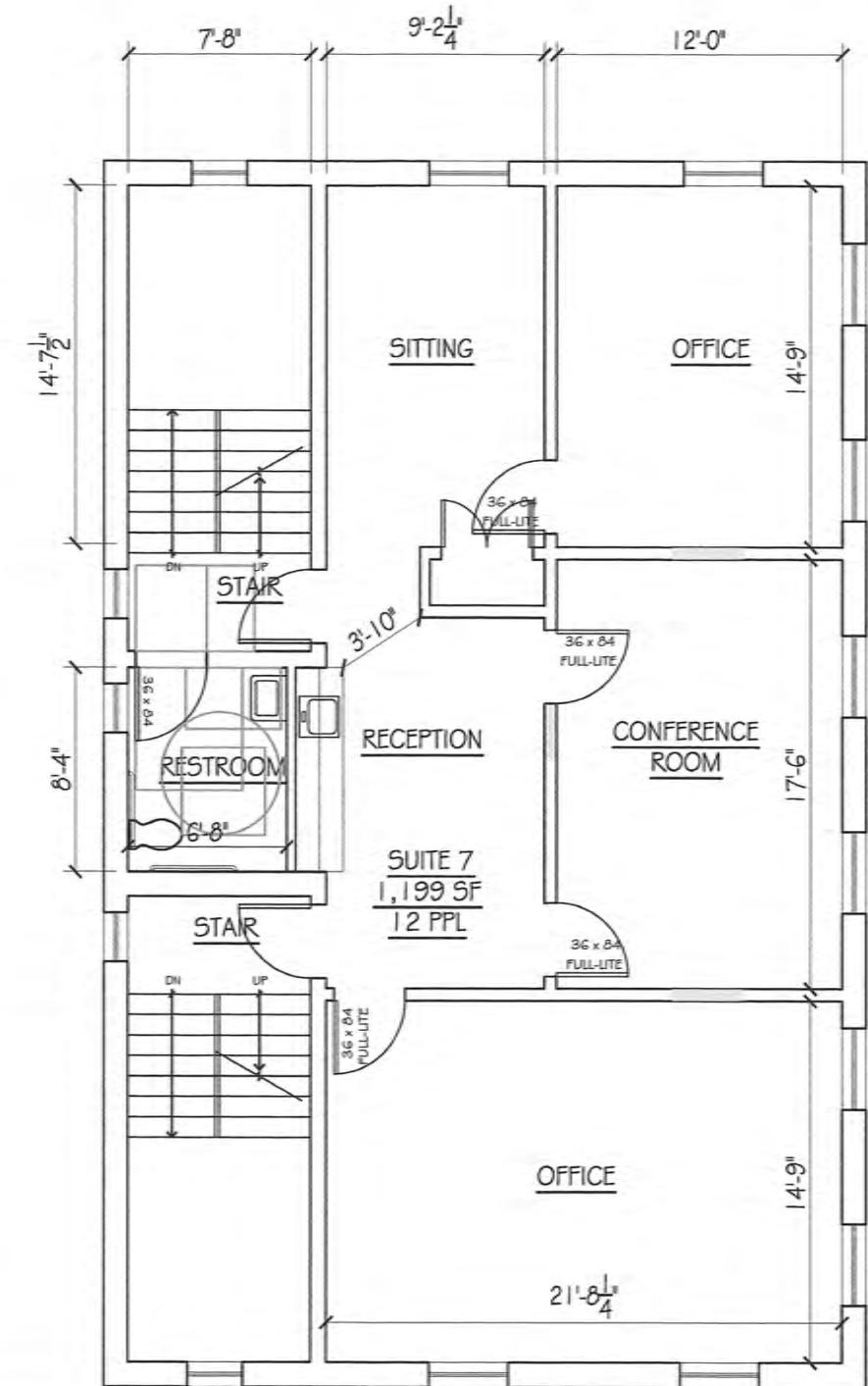
### GROUND FLOOR PLAN - 1,600 GSF

$$\frac{1}{8} = 1'-0"$$



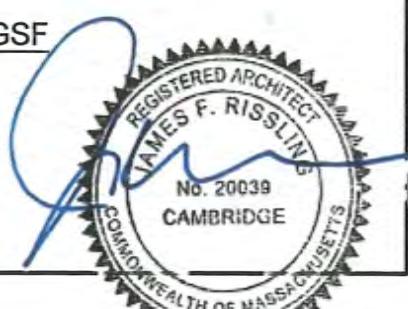
### FIRST FLOOR PLAN - 1,600 GSF

$$\frac{1}{8} = 1'-0"$$



## SECOND FLOOR PLAN - 1,600 GSF

$$\frac{1}{8} = 1'-0"$$



## EXISTING CONDITIONS: PLANS

**Revisions:**

ect # 21041

21041

1/8" = 1'-0"

© 1991 2000

Oct. 31, 2022

wing #

## EX1.1

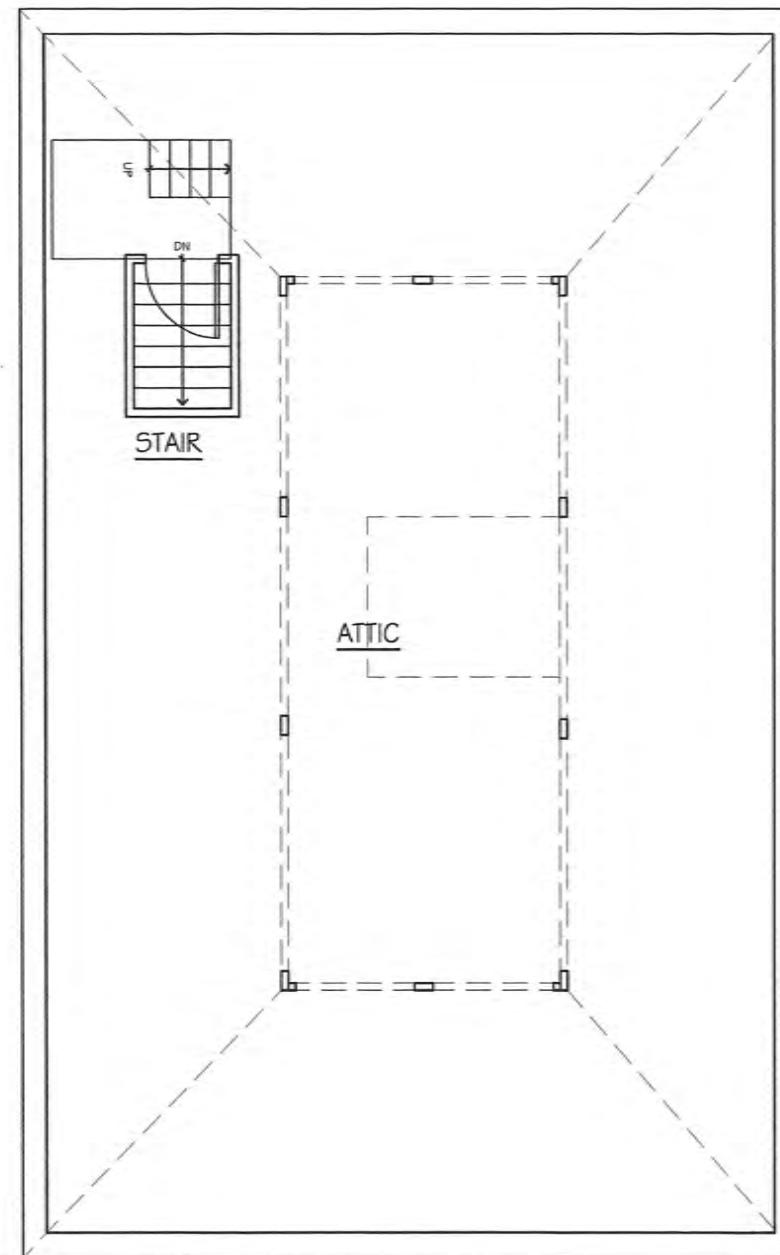
— 1 —

Project Title:  
99 Mass Ave  
Arlington, MA

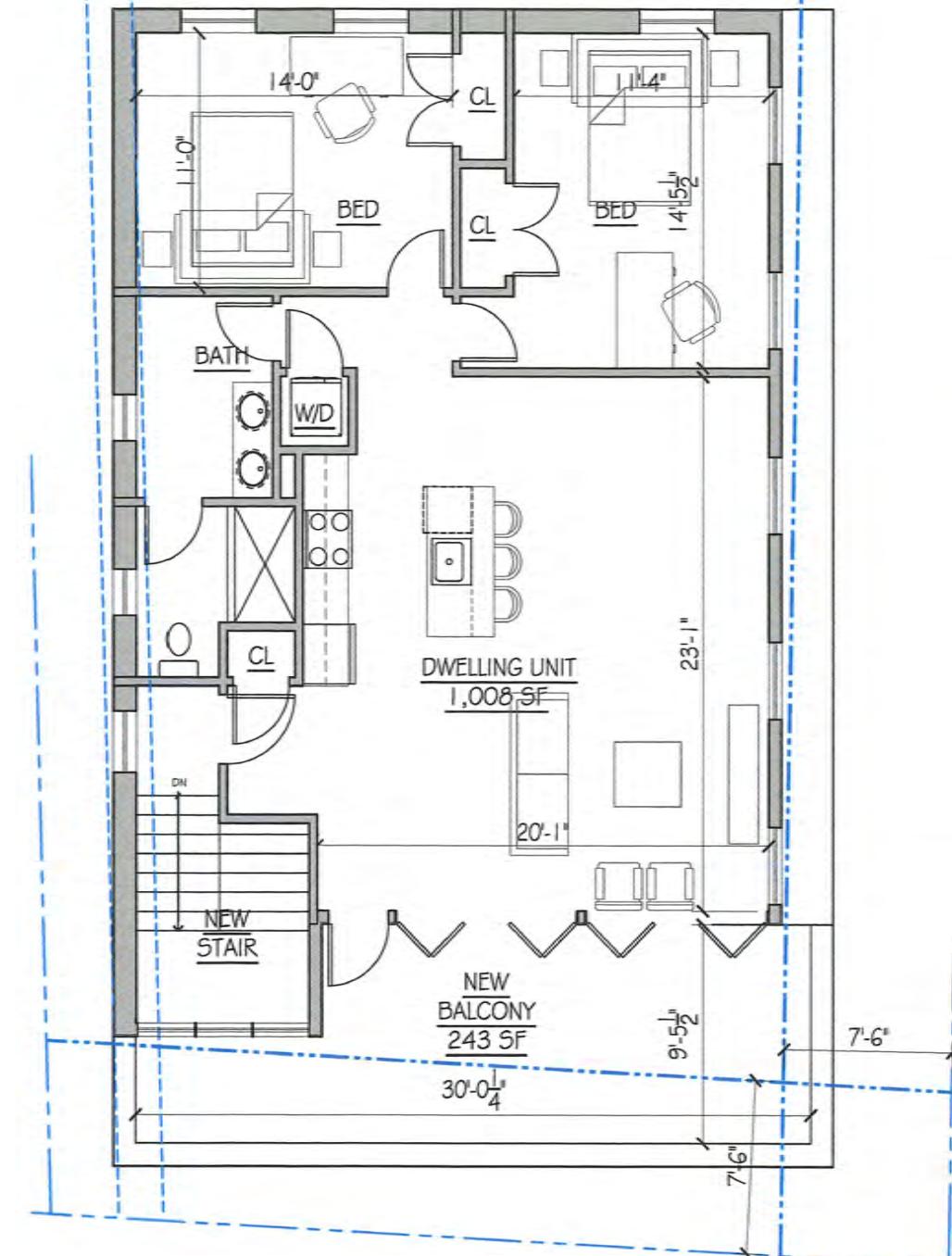
Drawing Title:  
**EXISTING & PROPOSED PLANS:  
ATTIC / FOURTH STORY**

Revisions:  
# Description date

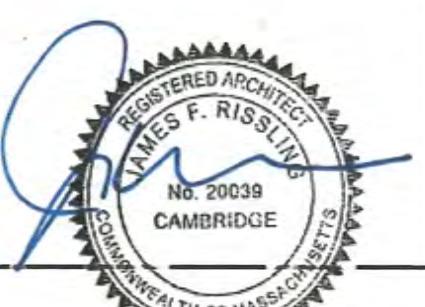
Project # 21041  
Scale: 1/8" = 1'-0"  
Date: Oct. 31, 2022  
Drawing # EX(A)1.2

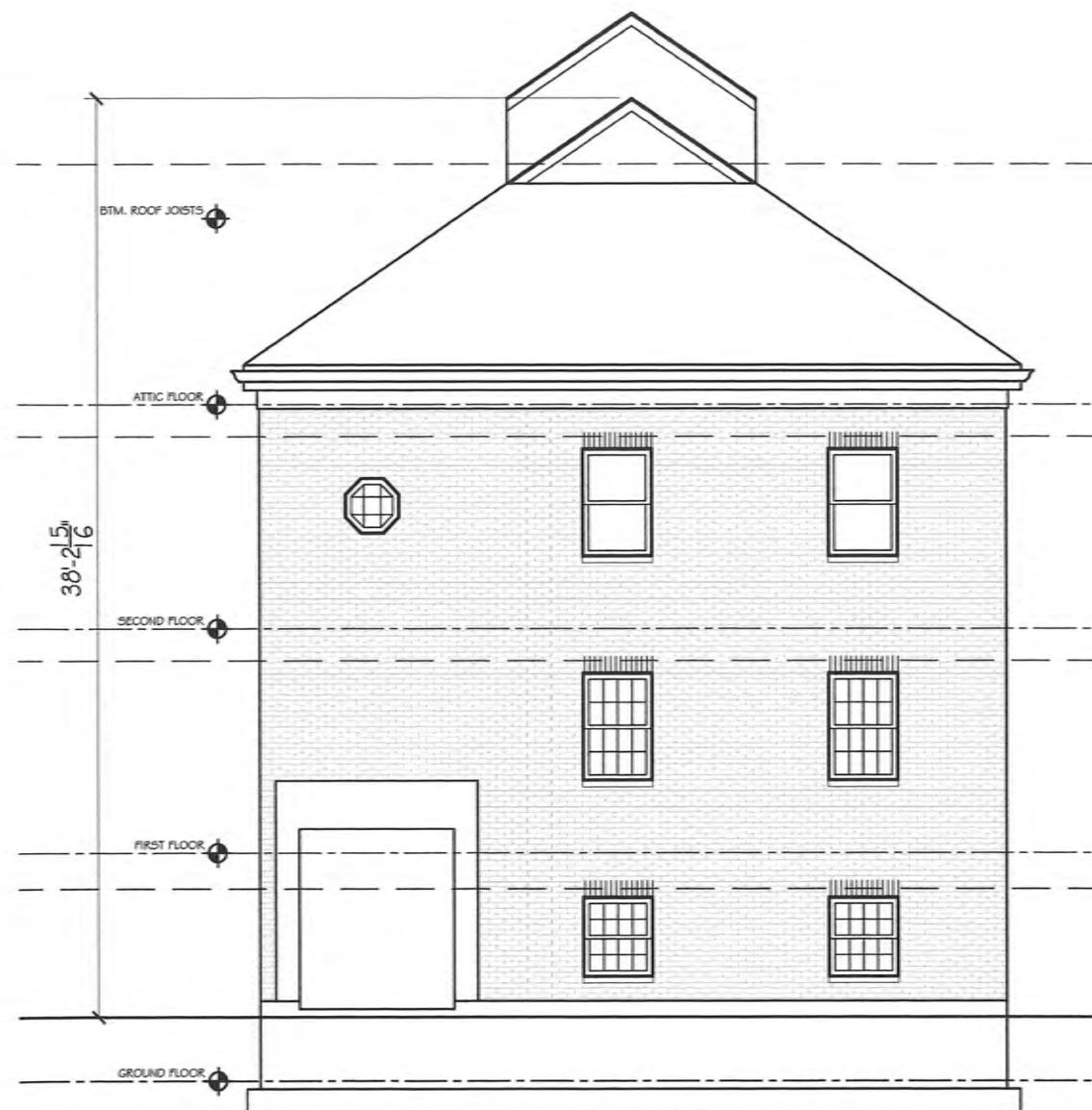


ATTIC FLOOR PLAN - 314 SF > 7' HGT.  
1/8 = 1'-0"

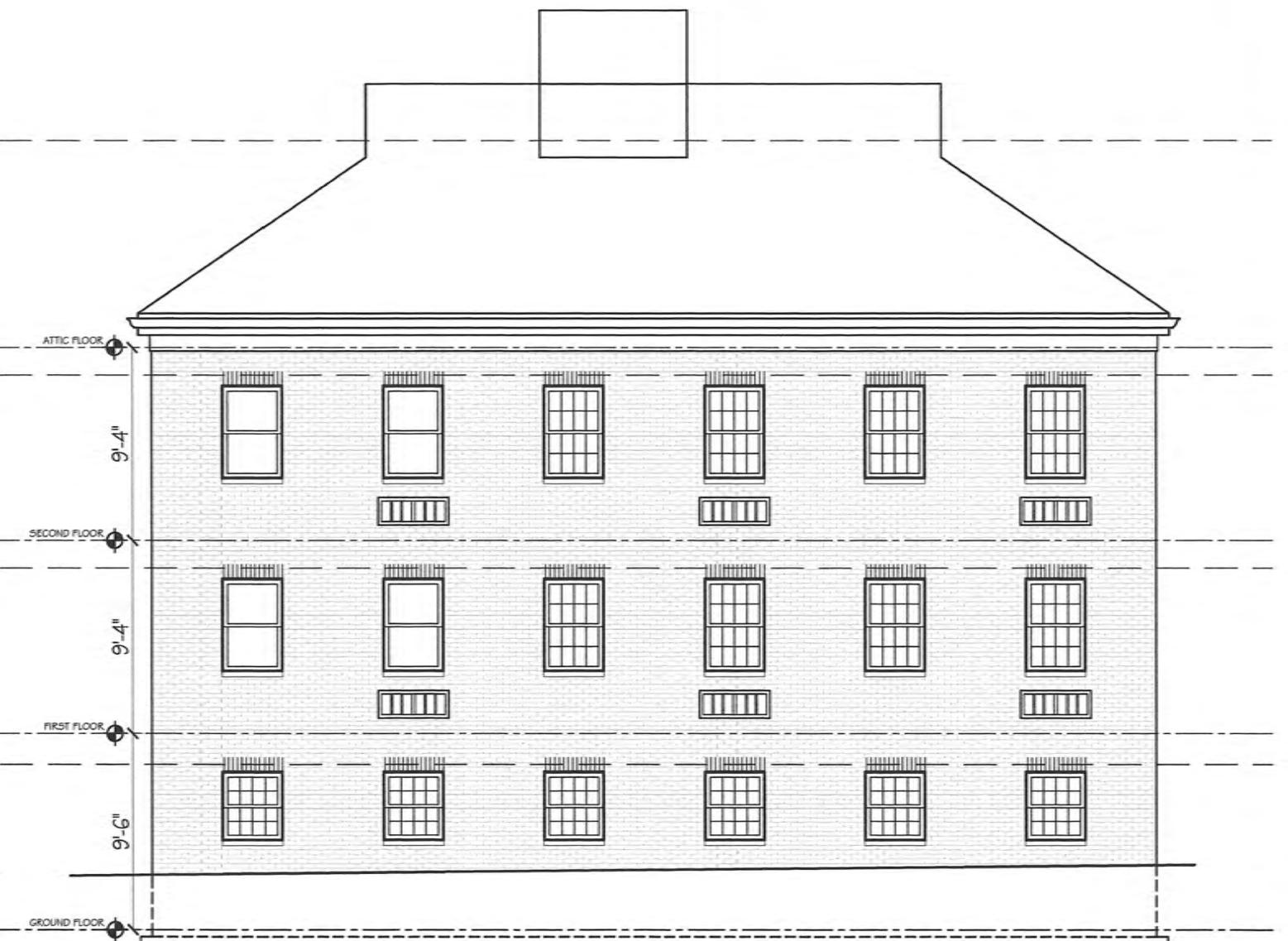


PROPOSED FLOOR PLAN - 1,220 SF  
1/8 = 1'-0"

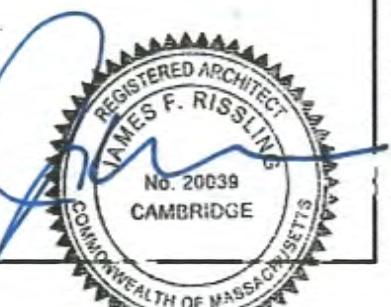




FRONT ELEVATION  
1/8 = 1'-0"



RIGHT SIDE ELEVATION  
1/8 = 1'-0"



Project Title:  
99 Mass Ave  
Arlington, MA

Drawing Title:  
EXISTING CONDITIONS:  
EXTERIOR ELEVATIONS

Rewards:  
# Description date

Project # 21041  
Scale: 1/8" = 1'-0"  
Date: Oct. 31, 2022

Drawing # EX2.1

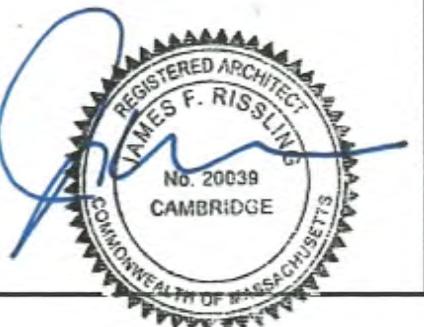
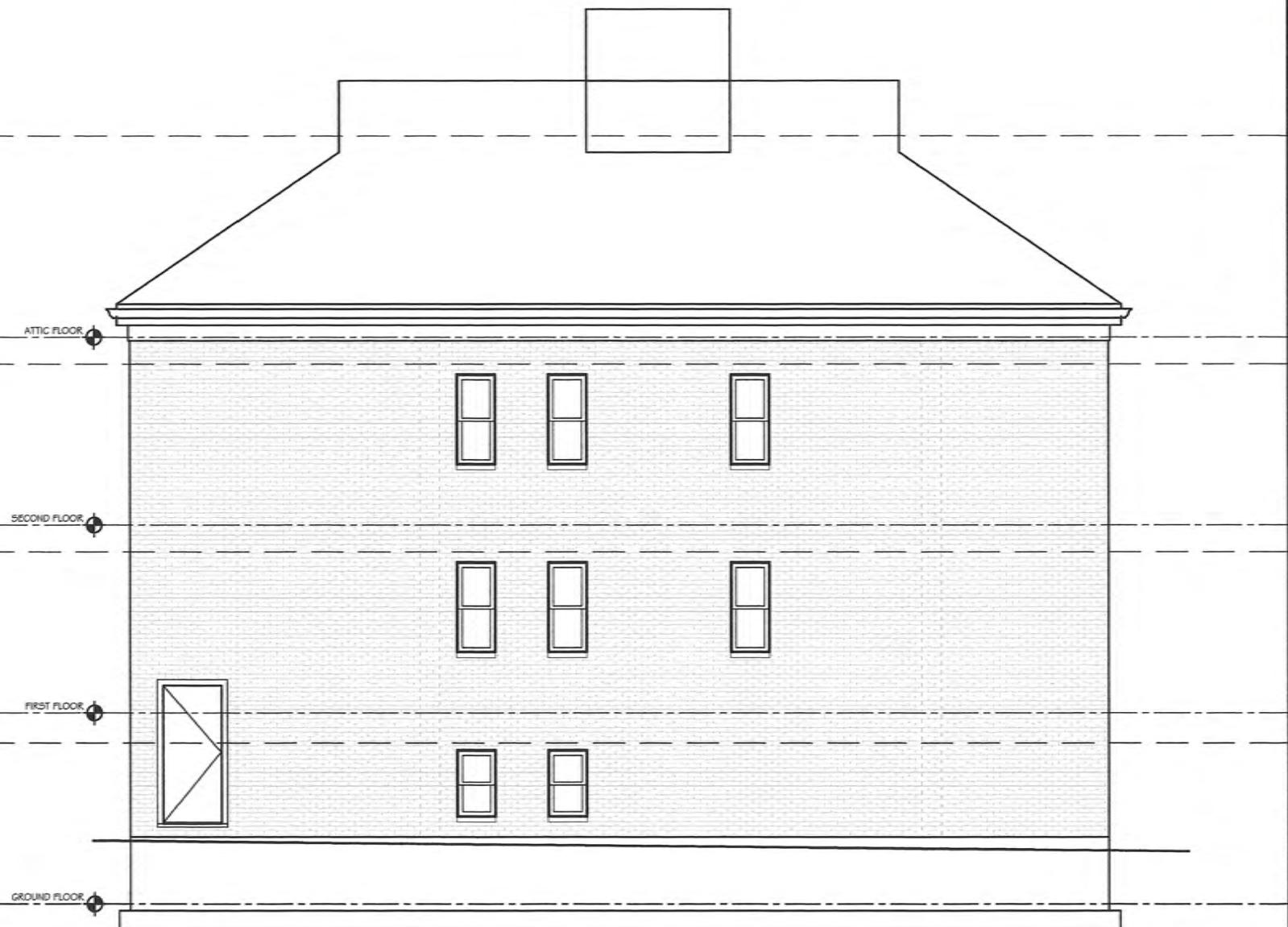
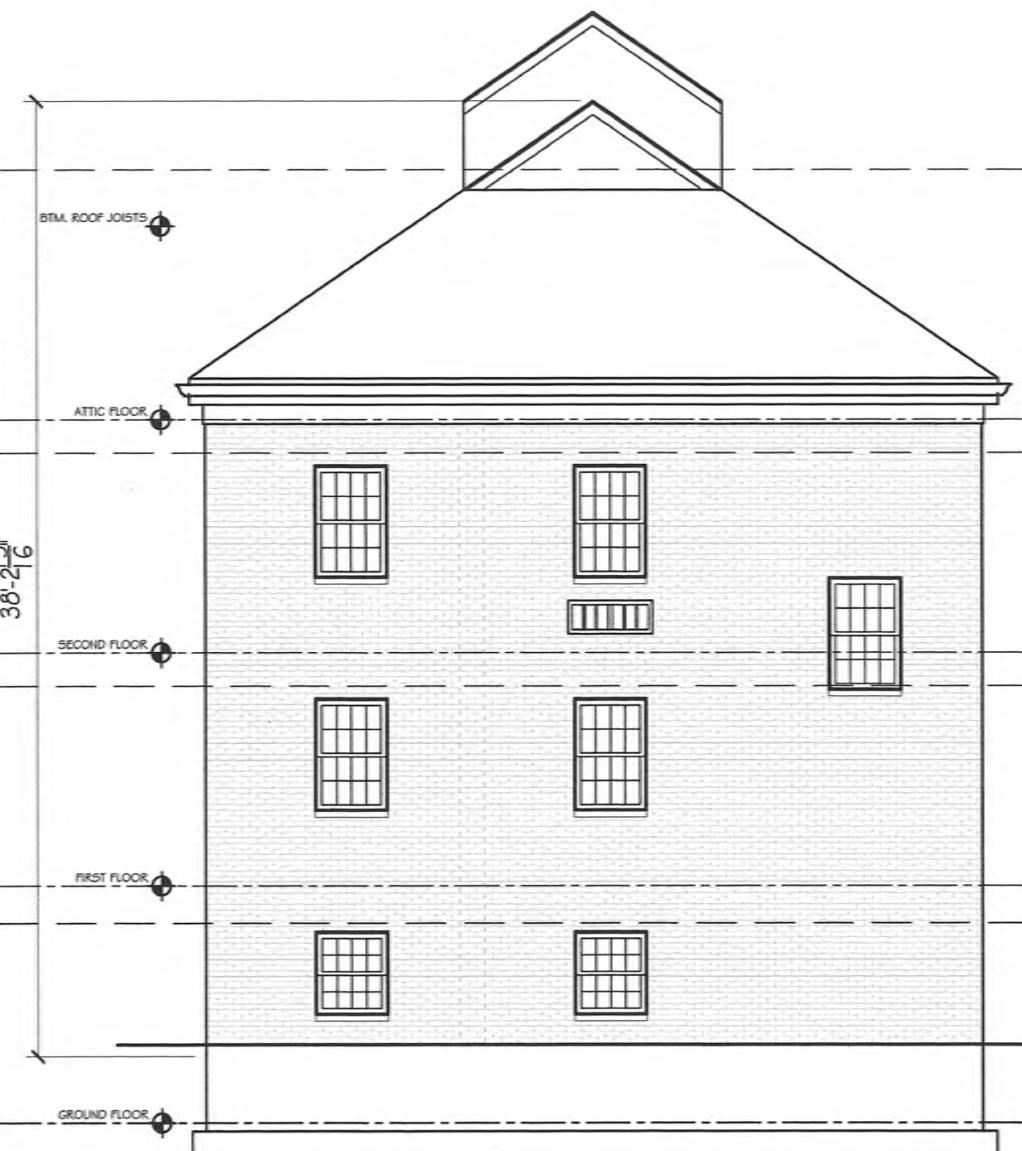
Project Title:  
99 Mass Ave  
Arlington, MA

**EXISTING CONDITIONS:  
EXTERIOR ELEVATIONS**

Drawing Title:

Rewvisions:  
# Description date

Project # 21041  
Scale: 1/8" = 1'-0"  
Date: Oct. 31, 2022  
Drawing # EX2.2



99 Mass Ave  
Arlington, MA

**ELEVATIONS  
EXISTING & PROPOSED**

Project Title: 99 Mass Ave

Drawing Title: ELEVATIONS

Revisions:

# Description date

Project #

21041

Scale:

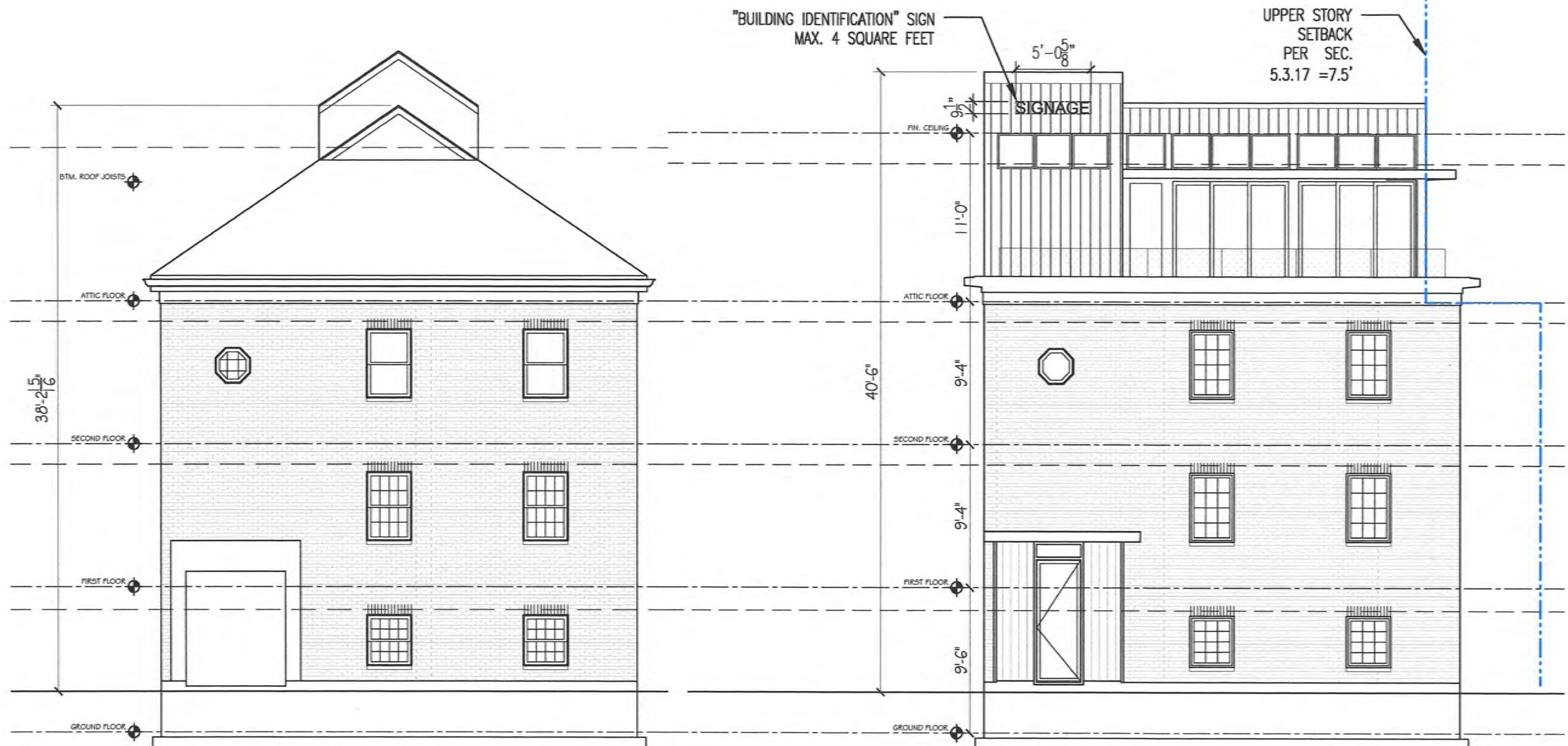
1/8" = 1'-0"

Date:

Oct. 31, 2022

Drawing #

A2.1

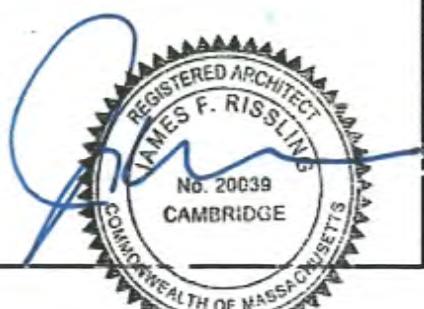
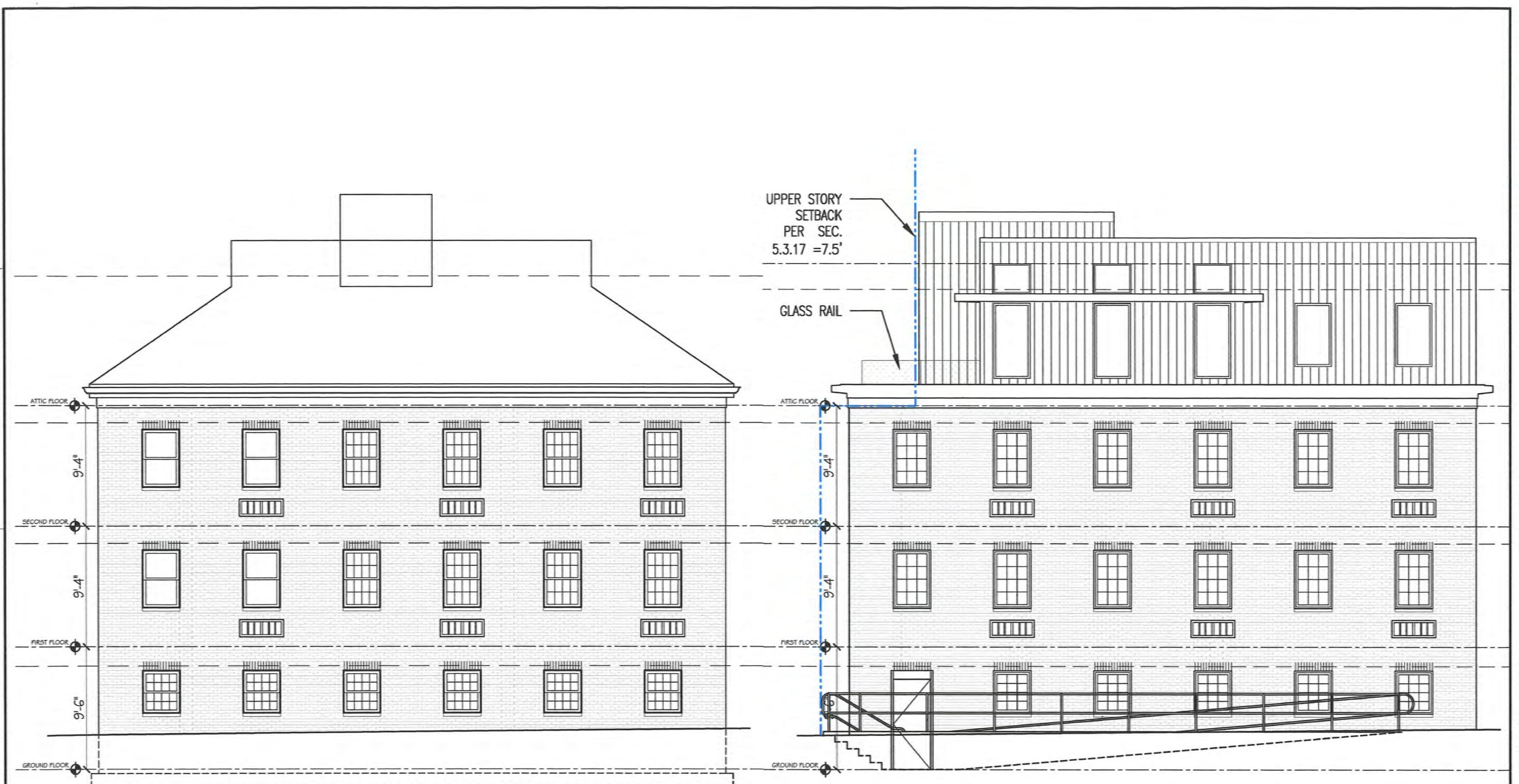


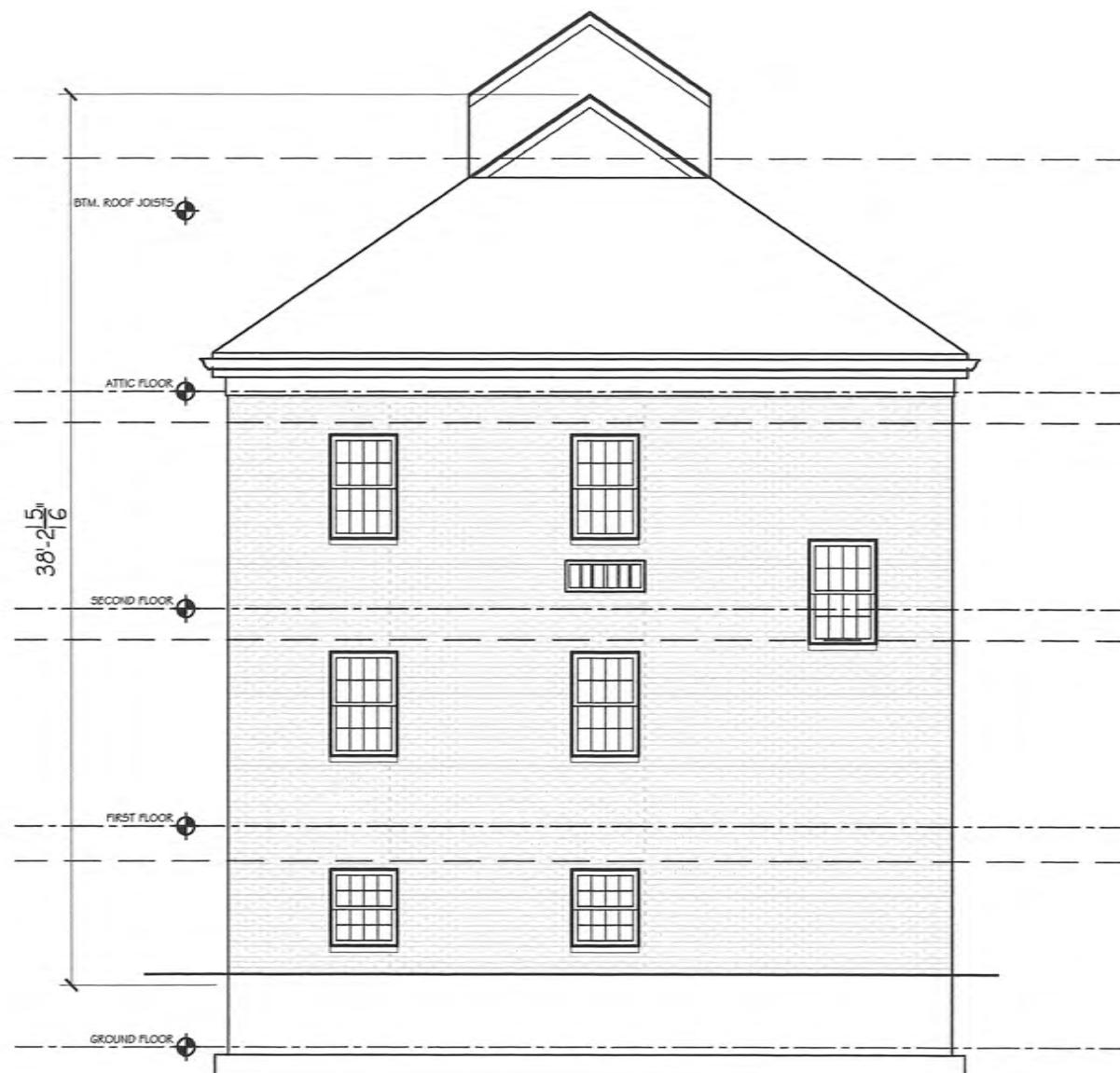
Project Title:  
99 Mass Ave  
Arlington, MA

Drawing Title:  
ELEVATIONS  
EXISTING & PROPOSED

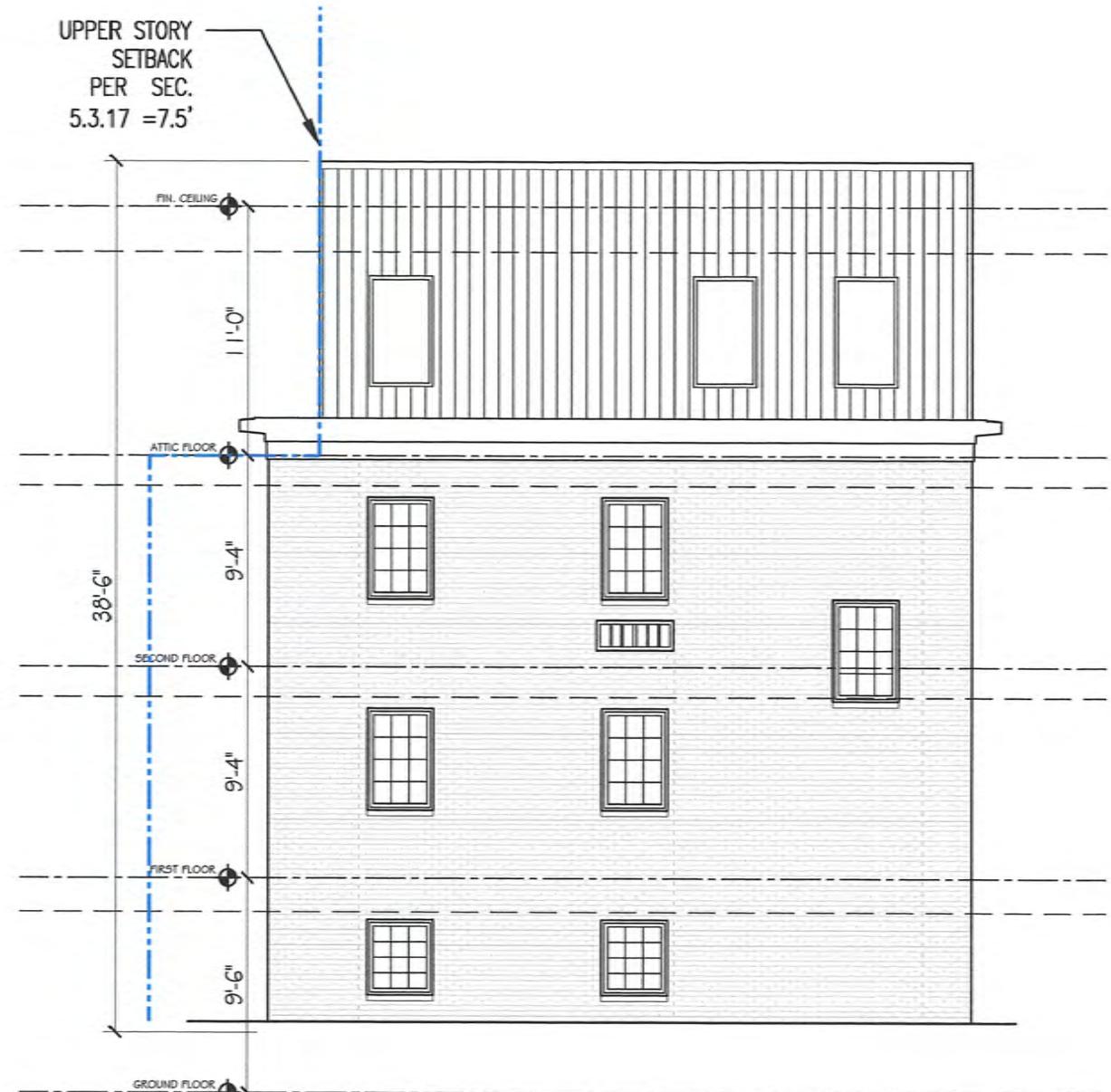
Revisions:  
# Description date

Project # 21041  
Scale: 1/8" = 1'-0"  
Date: Oct. 31, 2022  
Drawing # A2.2





EXISTING ELEVATION- REAR  
1/8 = 1'-0"



PROPOSED ELEVATION- REAR  
1/8 = 1'-0"

Project Title:

99 Mass Ave  
Arlington, MA

Drawing Title:

**ELEVATIONS  
EXISTING & PROPOSED**

Revisions:

# Description date

Project #

21041

Scale:

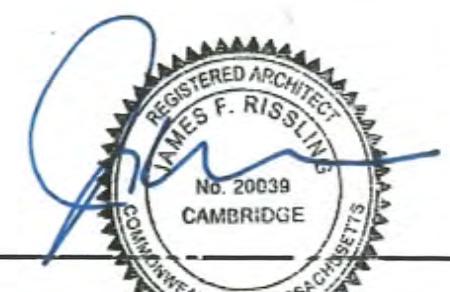
1/8" = 1'-0"

Date:

Oct. 31, 2022

Drawing #

A2.3



99 Mass Ave  
Arlington, MA

**ELEVATIONS  
EXISTING & PROPOSED**

Drawing Title:

Revisions:

# Description date

Project #

21041

Scale:

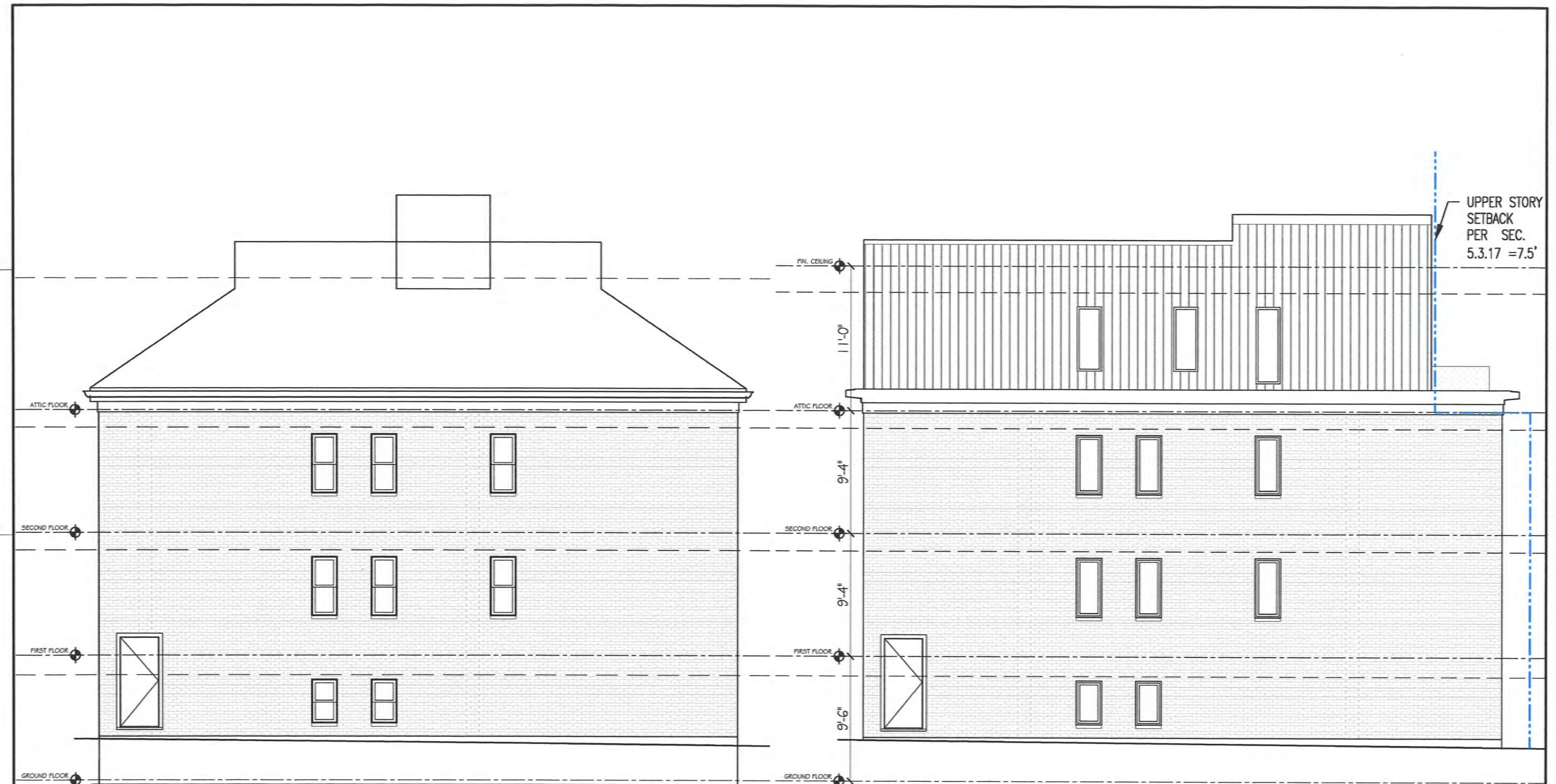
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Date:

Oct. 31, 2022

Drawing #

A2.4

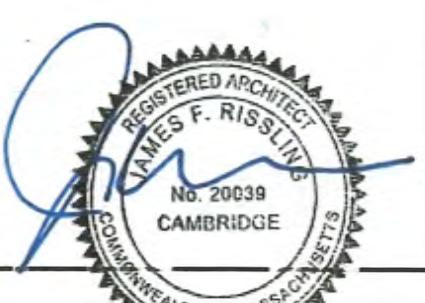


**EXISTING ELEVATION- LEEFHAND**

1/8 = 1'-0"

**PROPOSED ELEVATION- LEEFHAND**

1/8 = 1'-0"





## Town of Arlington, Massachusetts

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### Non-Zoning Warrant Articles

#### Summary:

8:00 p.m. ARB to discuss and possibly vote on recommendation for Warrant Articles 21, 22, and 23, Transfer of ARB properties, and Warrant Article 14, Strategic Plan for New Growth.

#### ATTACHMENTS:

Type	File Name	Description
Reference Material	230323_ARBmemo_growth_working_group.pdf	Memo to Board regarding Growth Working Group Strategic Plan for New Growth Article 14 L. Diggins
Reference Material	Agenda_Item_2_Article_14_L._Diggins.pdf	Memo from Town Counsel to ARB on Transfer of ARB Properties under Warrant Articles 21 and 23
Reference Material	Agenda_Item_2_3.14.23_Memo_from_TC_to_ARB_on_Transfer_of_ARB_Properties_under_Warrant_Articles_21_22_and_23.pdf	Properties under Warrant Articles 21 and 23



## TOWN OF ARLINGTON

DEPARTMENT OF PLANNING and  
COMMUNITY DEVELOPMENT

TOWN HALL, 730 MASSACHUSETTS AVENUE  
ARLINGTON, MASSACHUSETTS 02476  
TELEPHONE 781-316-3090

Date: March 23, 2023

From: Claire V. Ricker, AICP, Director of Planning and Community Development

To: Arlington Redevelopment Board (ARB)

Re: Proposed Warrant Article 14 Vote/Strategic Plan for New Growth

---

The Board has asked staff to prepare a response to Warrant 14 for discussion and possible submission to the Select Board. The Warrant Article is attached to the agenda for the Board's 3/27/23 meeting. Principally, the Warrant Article proposes:

*VOTE/STRATEGIC PLAN FOR NEW GROWTH to see if the Town will vote to create a study group, composed of staff and other appointed residents, for the purposes of developing a strategic plan to increase new growth; or take any action related thereto.*

The Department of Planning and Community Development (DPED) has concerns about creating a new committee to study the long-term growth and impacts of forward planning in Arlington for the following reasons:

1. Although adoption of MBTA Communities policy has been and will continue to be one of the primary projects for the Department through most of 2023, in early 2024 under the auspices of the ARB, DPED plans to kick-off a project to update the 2015 Master Plan that will be a decade old in 2025.
2. Massachusetts General Law Chapter 41, section 81D (MGL c. 41 (81D)) establishes that the responsibility for development of a Master Plan lies with the Town planning board. Study and review of long-term growth strategies, planning, and development of plans are under the purview of the Arlington Redevelopment Board, which functions as the planning board for the Town. To wit:

*A planning board established in any city or town under section eighty-one A shall make a master plan of such city or town or such part or parts thereof as said board may deem advisable and from time to time may extend or perfect such plan. Such plan shall be a statement, through text, maps, illustrations, or other forms of communication, that is designed to provide a basis for decision making regarding the **long-term physical development** of the municipality. (emphasis added) MGL c. 41(81D)*

3. There are several required sections for a Master Plan as described and defined in MGL c. 41 (81D) that are related to future growth and development including the following:

- *Goals and policies statement which identifies the goals and policies of the municipality for its **future growth and development**. MGL c. 41(81D)(1)*
- *Land use plan element which identifies present land use and designates the proposed distribution, location, and inter-relationship of public and private land uses. MGL c. 41(81D)(2)*
- *Economic development element which identifies policies and strategies for the expansion or stabilization of the local economic base and the promotion of employment opportunities. MGL c. 41(81D)(4)*

While we appreciate the enthusiasm for study, development, and review of strategies for long-term growth, let alone development of a strategic plan, we believe this work is best suited to the future Master Plan Advisory Committee, working with the ARB and DPCD, that can evaluate growth within community recommendations for economic development and land use. This work is best served by the robust and comprehensive public process of master planning and should be evaluated in an iterative process with a holistic eye toward the development of additional plan sections such as housing and open space.

As with all planning projects, we endeavor to engage a diverse representation of the Arlington community to plan for the future of Arlington. The project to update the Master Plan will be no exception. A new committee to complete a strategic plan for new growth would be redundant to the important work of developing an update to the Master Plan in early 2024.

\*\*\*HEARING\*\*\*

**ARTICLE 14                    VOTE/STRATEGIC PLAN FOR NEW GROWTH**

To see if the Town will vote to create a study group, composed of staff and other appointed residents, for the purposes of developing a strategic plan to increase new growth; or take any action related thereto..

(Inserted at the request of Lenard Diggins and ten registered voters)

**VOTED:**

**That Town Meeting hereby establishes a “Strategic Plan for Responsibly Increasing New Growth Study Committee” to be structured, organized, and charged as follows:**

**Strategic Plan for Responsibly Increasing New Growth Study Committee**

**I.            Committee Membership and Organization**

**A. The Committee shall consist of the following members:**

- **Four (4) Arlington residents appointed by the Town Moderator**
- **One (1) member of the Select Board, or their designee;**
- **One (1) member of the Board of Assessors, or their designee;**
- **One (1) member of the Redevelopment Board, or their designee;**
- **One (1) member of the Zoning Board of Appeals or their designee; and**
- **One (1) member of the Planning Department of their designee**

**B. Quorum**

**A majority of voting members shall constitute a quorum, and decisions shall be based on the vote of a simple majority of those committee members present and voting.**

**C. Organization and First Meeting**

**The initial meeting of the Study Committee shall be convened by the designee of the Select Board, and the first order of business shall be the self-organization of the study committee through the election of**

one or more chairs, whose responsibility shall be to convene and preside over all future meetings, as well as a clerk, whose duties shall include the proper posting of meeting agendas and minutes. The Study Committee shall designate any other officers as it sees fit.

**II. Committee Charge & Reporting**

- A. The Study Committee shall study the need, value, and options for the development of strategic plan for responsibly increasing new growth.**
- B. The Study Committee shall be encouraged to do research as to how new growth is generated in MA, the US, and internationally.**
- C. The Study Committee shall engage residents of the town for their thoughts and ideas via forums and polls and any other means that allow outreach to as many residents as possible.**
- D. The Study Committee shall report its findings and recommendations to the 2025 Annual Town Meeting, and if requested, it will be granted another year to function.**

**III. Dissolution**

The study committee will be dissolved concurrent with the dissolution of the 2026 Annual Town Meeting, unless there is a vote of Town Meeting to effectuate an earlier dissolution or other amendment.



## **Town of Arlington Legal Department**

Douglas W. Heim

Town Counsel

50 Pleasant Street

Arlington, MA 02476

Phone: 781.316.3150

Fax: 781.316.3159

E-mail: [dheim@town.arlington.ma.us](mailto:dheim@town.arlington.ma.us)

Website: [www.arlingtonma.gov](http://www.arlingtonma.gov)

To: Arlington Redevelopment Board;  
Sandy Pooler, Town Manager  
Claire Ricker, Director of Planning and Community Development  
Kelly Lynema, Deputy Director of Planning and Community Development

From: Douglas W. Heim, Town Counsel

Date: March 13, 2023

**Re: 2023 Town Meeting Articles 21, 22, and 23: Transfer of ARB Property to the Town of Arlington**

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Members of the Arlington Redevelopment Board (“ARB”), I write in advance of the Select Board’s warrant article hearings on Article 21, 22, and 23 of the 2023 Town Meeting, each of which seek to transfer custody and management of properties currently owned and managed by the ARB to “the Town.”<sup>1</sup> Specifically, as the ARB knows, you hold title and management responsibility for a number of commercial properties – 20 Academy Street, “the

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<sup>1</sup> The ARB is of course primarily an instrumentality of the Town. However, when it exercises its authority under c. 121B (“Urban Renewal”) the ARB has the legal authority and identity to hold property during the execution of an Urban Renewal Plan separate and distinct from the rest of the Town at large.

Central School Building”, 611 Massachusetts Avenue, “the Jefferson Cutter House”, and 23 Maple Street (the current home Inspectional Services) – which you maintain and lease. Your largest leaseholder in terms of both budget and square footage to this Office’s understanding is the Town itself. I expect the Town Manager and/or Department of Planning and Community Development staff to highlight the operational and budgeting challenges of a subdivision of the Town serving as a commercial landlord for the Town’s own departments such as Health and Human Services, Inspectional Services, and the Council on Aging. However, from a process standpoint, in order for Town Meeting to vote on any transfer from you, the ARB must first vote to approve of same. Some members may recall this same process was utilized following the successful acquisition and redevelopment of the properties that formed McLennen Park, wherein the ARB transferred management and ownership back over to the Town and Town Manager.

### **ARB Properties In Context**

For a brief refresher on how and why the ARB came to hold and manage these properties, G.L. c. 121B (“Housing and Urban Renewal”) authorizes municipalities to create redevelopment authorities. *See e.g.*, G.L. c. 121B, §§ 4, 9, 11. The ARB was established as one such authority (in addition to its Planning Board and special permit granting authority roles) as codified in § 17 of the Town Manager Act with citations to c. 121B for your authorities. In short, the ARB has specialized powers to acquire, hold and redevelop property for the purposes of rehabilitating substandard or blighted properties and otherwise engage in urban renewal activities. However, those powers are very much anchored in renewal, including specific and discrete goals, rather than indefinite retention and management.

### **Applied to Central School, Jefferson Cutter, and 23 Maple Street Parcels**

There can be little doubt that the properties in question in Articles 21, 22, and 23 have been successfully redeveloped from their prior blighted or unutilized states, serving as among other things, a community center, a museum, commercial art space, and highly utilized Town offices. As such, there is not an apparent clear and continuing “urban renewal” purpose for the ARB or the Department of Planning and Community Development to serve as the landlord for

the various government offices and non-profits that utilize them. While the matter remains in the ARB's discretion to vote upon as it so chooses, it is important to stress that if the properties are to remain with the ARB, they should do so pursuant to an active urban renewal plan under c. 121B. With great respect and deference to your stewardship and the stewardship of the Department of Planning and Community Development, absent such a plan the properties likely should be treated in the same way as McClenen Park – as ARB redevelopment successes which became “Town” properties.

Should you have any questions, please contact this Office. But should you be inclined to proceed, it should be noted that you are not providing a “warrant article hearing” for these Articles, merely your consent to proceed on each. The Select Board will hold warrant article hearings, informed by your position. If you are inclined to approve the transfers, an appropriate motion would be:

*VOTED: That the Arlington Redevelopment Board consents to the transfer of Article 21, 22, and 23 of the 2023 Town Meeting, each of which seek to transfer title, custody and management of its properties located 20 Academy Street, known as “the Central School Building,” 611 Massachusetts Avenue (known as “the Jefferson Cutter House”), and 23 Maple Street to the Town of Arlington under the custody and management of the Town Manager.*

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## Town of Arlington, Massachusetts

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### 2023 Annual Town Meeting – Zoning Warrant Articles

#### Summary:

8:30 p.m. The ARB will deliberate and may vote on the proposed zoning amendments for 2023 Annual Town Meeting

- Board members will discuss each proposed Main Motion and may vote with a recommendation to Town Meeting

#### ATTACHMENTS:

Type	File Name	Description
□ Reference Material	Agenda_Item_3_ARB_Draft_Zoning_Amendments_for_2023_ATM.pdf	Draft Zoning Bylaw Amendments for 2023 Annual Town Meeting
□ Reference Material	Agenda_Item_3_Industrial_Land_Use_Report_Final.pdf	MAPC Industrial Land Use Report Commonwealth Magazine Article_Industrial Land Use
□ Reference Material	Agenda_Item_3_Industrial_land_disappearing_CommonWealth_Magazine.pdf	Updated Draft Zoning Bylaw Magazine Article_Industrial Land Use
□ Reference Material	Agenda_Item_3_ARB_Draft_Zoning_Amendments_for_2023_ATM_rev.pdf	Amendments for 2023 Annual Town Meeting



## **Town of Arlington**

### **ARLINGTON REDEVELOPMENT BOARD**

#### **DRAFT Zoning Bylaw Amendments for 2023 Annual Town Meeting**

Rachel Zsembery, Chair

Kin Lau, Vice Chair

Eugene Benson

Stephen Revilak

Claire Ricker

Secretary Ex-Officio

Director of Planning and Community Development

Voted as amended \_\_\_\_\_

## **Introduction and Overview**

The Arlington Redevelopment Board (ARB) is the Town's Planning Board, under M.G.L. Chapter 41 § 81. There are five members of the Board. Four are appointed by the Town Manager and the fifth is a gubernatorial designee appointed by the Massachusetts Department of Housing and Community Development. The Board serves as the Town's special permit granting authority for projects which require an Environmental Design Review (EDR) as identified in the Zoning Bylaw. The ARB is also the Town's Urban Renewal Authority under M.G.L. Chapter 121; with Town Meeting approval, the Board may hold property to improve and rehabilitate them to meet community development goals.

The members of the ARB are as follows:

Rachael Zsembery, Chair (Term through 6/30/2023)  
Kin Lau, Vice Chair (Term through 1/31/2022)  
Eugene Benson (Term through 1/31/2023)  
Stephen Revilak (Term through 9/22/2023)

Claire Ricker, AICP, Director of the Department of Planning and Community Development, serves as Secretary Ex-Officio to the ARB.

## **Zoning Articles Overview**

The ARB review process for 2023 Annual Town Meeting began in January with the close of the Warrant and will culminate after Town Meeting with a submission by the Town Clerk of any approved zoning amendments to the Attorney General. A detailed description of the submission, review process, and schedule is posted on the [ARB website](#).

When any warrant article proposes to amend the "Town of Arlington Zoning Bylaw," the ARB is required to issue a report with recommendations to Town Meeting. Appearing below are articles that propose to amend the Zoning Bylaw and Zoning Map. This report includes a brief discussion of the intent of each proposed amendment followed by a recommended vote of the ARB. The ARB's vote constitutes its recommendation to Town Meeting. The recommendations of the ARB, and not the original warrant articles, are the actual motions that will be considered by the Town Meeting. An ARB vote of "No Action" means that Town Meeting will be asked to vote that no action be taken on the proposed warrant article. Changes to the Zoning Bylaw text are shown beneath the recommended votes. Additions to the original Zoning Bylaw text appear as underlined text, while any deletions to the original Zoning Bylaw text appear as strike through text.

The ARB advertisement for the public hearings on the Warrant Articles proposed to amend the Zoning Bylaw appeared in the *Arlington Advocate* as required on February 16 and February 23, 2023. In accordance with the provisions of the Arlington Zoning Bylaw and Massachusetts General Laws Chapter 40A, the ARB held public hearings and heard public comments remotely on Zoom on the proposed amendments on Monday, March 6, 2023 and Monday, March 13, 2023. The ARB voted \_\_\_\_\_ on recommended bylaw language at their meeting on March 27, 2023. The ARB voted \_\_\_\_\_ on this report as amended at their meeting on April \_\_\_\_\_, 2023.

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<u>ADOWNTOWN BUSINESS PARKING MINIMUMS .....</u>	<u>8</u>
<u>ONE- AND TWO-FAMILY USABLE OPEN SPACE .....</u>	<u>10</u>
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**Summary of Recommended Votes of the Redevelopment Board**

<b>Article No.</b>	<b>Date of ARB Hearing</b>	<b>Recommendation to Town Meeting</b>
Article 26	March 6, 2023	
Article 27	March 6, 2023	
Article 28	March 6, 2023	
Article 29	March 13, 2023	
Article 30	March 13, 2023	
Article 31	March 6, 2023	
Article 32	March 13, 2023	

**Zoning Bylaw Amendments: Industrial District Development Standards**  
**Additions to the Zoning Bylaw shown in underline format. Deletions shown in ~~strikeout format~~.**

**ARTICLE 26 ZONING BYLAW AMENDMENT/ INDUSTRIAL DISTRICT DEVELOPMENT STANDARDS**

To see if the Town will vote to amend the Zoning Bylaw to update Section 5.6.2 DEVELOPMENT STANDARDS to establish the design storm or other criteria that must be met for stormwater retention and treatment to receive an exception to maximum height regulations in the Industrial District; or take any action related thereto.

(Inserted at the request of the Redevelopment Board)

**Discussion:**

**tktktktktk**

**VOTED:** **( / )**

That... (no action be taken under Article 26 / the Zoning Bylaw be and hereby is amended as follows:)

**Amend SECTION 5.6.2:**

---

**(D)(7) Development Standards, Exceptions to Maximum Height Regulations in the Industrial District**

For new development or additions that would otherwise be subject to Section 5.3.19, heights over 39 feet or three stories are allowed subject to the following development standards:

- Demonstrate that new buildings or additions shall allow for full sun at least half the time or 50% sun coverage all the time on March 21, June 21, September 21, and December 21 on the lots within the required residential buffer as defined in Section 5.3.19. The Redevelopment Board or Board of Appeals, as applicable, shall find that any shadow on abutters with existing solar panels would be negligible to allow the higher height limit.
- Provide one (1) of the following sustainable roof infrastructure components. In the case of a building that is solar ready per Section 5.6.2.D(1), the component should cover the remaining roof area where appropriate:
  - Install a vegetated or green roof over 50% of the roof area.
  - Use diffuse, highly reflective materials on 75% of the roof area.
  - Install solar energy panels tied to the electrical system of the building. For new commercial or mixed-use building, provide solar PV and/or solar thermal on a minimum of 50 percent of the roof area.
  - Provide 100% highly reflective concrete topping.
  - Install a blue roof over 50% of the roof area to provide initial temporary water storage and then gradual release of stored water.
- Retain and treat 100% of stormwater on site. Demonstrate that the proposed activity will not result in stormwater runoff or discharge from the site during storm events, based on the best currently available rainfall data (the upper bound of 90% confidence interval of the 100-year storm) defined in NOAA Atlas 14, Volume 10, or its successor. All infiltration Best Management Practices (BMPs) must be able to drain fully within 72 hours.

**Zoning Bylaw Amendments: Industrial District Development Standards**  
**Additions to the Zoning Bylaw shown in underline format. Deletions shown in ~~strikeout format~~.**

Remove stormwater pollution to the maximum extent possible, at minimum 90% of Total Suspended Solids (TSS) and 60% of Total Phosphorus. A minimum TSS removal prior to discharge to an infiltration BMP(s) must comply with the Massachusetts Department of Environmental Protection Stormwater Policy as amended from time to time.

**Zoning Bylaw Amendment: Solar Bylaw in Industrial Districts**

**Additions to the Zoning Bylaw shown in underline format. Deletions shown in ~~strikeout format~~.**

**ARTICLE 27**

**ZONING BYLAW AMENDMENT/ SOLAR BYLAW IN INDUSTRIAL DISTRICTS**

To see if the Town will vote to amend the Zoning Bylaw to update Section 5.6.2 DEVELOPMENT STANDARDS to reflect the inclusion of Section 6.4 SOLAR ENERGY SYSTEMS; or take any action related thereto.

(Inserted at the request of the Redevelopment Board)

**Discussion:**

**tktktktktk**

**VOTED:** **( / )**

That... (no action be taken under Article 27 / the Zoning Bylaw be and hereby is amended as follows:)

**Amend Section 5.6.2:**

---

**5.6.2(D)(1) Development Standards, Renewable Energy Installations**

D. Development Standards. In the Industrial District, the following requirements apply to all new development or additions over 50% of the existing footprint:

(1) Renewable Energy Installations

- The Redevelopment Board may, by special permit, allow adjustments to the height and setbacks in order to accommodate the installation of solar photovoltaic, solar thermal, living and other eco-roofs, energy storage, and air-source heat pump equipment. Such adjustments shall not create a significant detriment to abutters in terms of noise or shadow and must be appropriately integrated into the architecture of the building and the layout of the site, consistent with the other requirements of this section.
- All new commercial and mixed-use buildings subject to Environmental design review shall be solar ready ~~comply with Section 6.4, Solar Energy Systems. All new commercial buildings not subject to Environmental Design review shall be solar ready, to the extent feasible.~~
- If not subject to Environmental Design Review, additions over 50% of the footprint of existing buildings shall be solar ready to the extent feasible.

**5.6.2(D)(7) Development Standards, Exceptions to Maximum Height Regulations in the Industrial District**

For new development or additions that would otherwise be subject to Section 5.3.19, heights over 39 feet or three stories are allowed subject to the following development standards:

- Demonstrate that new buildings or additions shall allow for full sun at least half the time or 50% sun coverage all the time on March 21, June 21, September 21, and December 21 on the lots within the required residential buffer as defined in Section 5.3.19. The Redevelopment Board or

## **Zoning Bylaw Amendment: Solar Bylaw in Industrial Districts**

**Additions to the Zoning Bylaw shown in underline format. Deletions shown in ~~strikeout format~~.**

Board of Appeals, as applicable, shall find that any shadow on abutters with existing solar panels would be negligible to allow the higher height limit.

- Provide one (1) of the following sustainable roof infrastructure components. Projects requiring Environmental Design Review are subject to section 6.4, Solar Energy Systems, and must therefore provide one additional component. In the case of a building that is solar ready per Section 5.6.2.D(1), the component should cover the remaining roof area where appropriate:
  - Install a vegetated or green roof over 50% of the roof area, or the portion of the roof without a solar energy system, whichever is less.
  - Use diffuse, highly reflective materials on 75% a significant proportion of the roof area that does not include solar.
  - ~~Install solar energy panels tied to the electrical system of the building. For new commercial or mixed-use building, provide solar PV and/or solar thermal on a minimum of 50 percent of the roof area.~~
  - Provide 100% highly reflective concrete topping on a significant portion of the roof area without a solar energy system.
  - Install a blue roof on a significant portion of the roof area without a solar energy system over 50% of the roof area to provide initial temporary water storage and then gradual release of stored water.
  - Retain and treat 100% of stormwater on site.

**Zoning Bylaw Amendment: Building Inspector, Enforcement**

**Additions to the Zoning Bylaw shown in underline format. Deletions shown in ~~strikeout format~~.**

**ARTICLE 28 ZONING BYLAW AMENDMENT/ BUILDING INSPECTOR, ENFORCEMENT**

To see if the Town will vote to amend the Zoning Bylaw to update Section 3.1(B) BUILDING INSPECTOR; ENFORCEMENT to remove a section that was deemed unenforceable by the Attorney General; or take any action related thereto.

(Inserted at the request of the Redevelopment Board)

**Discussion:**

tktktktktk

**VOTED:** ( / )

That... (no action be taken under Article 28 / the Zoning Bylaw be and hereby is amended as follows:)

**Amend Section 3.1:**

---

- A. The Building Inspector appointed under the provisions of [G.L. c. 143](#) is hereby designated and authorized as the officer charged with the administration and enforcement of this Bylaw.
- B. No person shall erect, construct, reconstruct, convert, or alter a structure, or change the use or lot coverage, increase the intensity of use, or extend or displace the use of any structure or lot without applying for and receiving the required permit(s) from the Building Inspector. ~~No such permit shall be issued until the Building Inspector finds that the applicant is in compliance with the applicable provisions of Title VI, Article 7 of the Town Bylaws~~<sup>2</sup>.

<sup>2</sup>Per the Massachusetts Attorney General decision on zoning amendments approve by 2020 Special Town Meeting, Subsection 3.1(B) cannot be applied to authorize the withholding of a building permit for failure to comply with general bylaw requirements. See <https://www.arlingtonma.gov/home/showdocument?id=63690&t=638097422294281171> for the full text.

## Zoning Bylaw Amendments: Downtown Business Parking Minimums

**Additions to the Zoning Bylaw shown in underline format. Deletions shown in strikeout format.**

## ARTICLE 29

## ZONING BYLAW AMENDMENT/ DOWNTOWN BUSINESS PARKING MINIMUMS

To see if the Town will vote to amend the Zoning Bylaw to completely remove the minimum parking requirements for all non-residential uses in the B5 District; or take any action related thereto.

(Inserted at the request of James Fleming and 10 registered voters)

## Discussion:

tktktktk

**VOTED:** ( / )

That... (no action be taken under Article 29 / the Zoning Bylaw be and hereby is amended as follows:)

By making the following changes to Section 6.1 of the Zoning Bylaw (“Site Development Standards”, “Off-Street Parking”):

### **Amend Section 6.1.2: Applicability:**

### 6.1.2. Applicability

- A. No land, building, or structure shall be used or changed to a category of greater parking demand, determined in accordance with the Table of Off-Street Parking Regulations below, except in accordance with this Section 6.1.
- B. Non-residential uses in the B5 District shall not be required to provide off-street parking; for any development, or change of use to a category of greater parking demand, the applicant may substitute space within public parking lots in lieu of parking requirements provided they are located within 1,000 feet of the building to be served, or shall provide a Transportation Demand Management plan as described in Section 6.1.5(C), to be administratively reviewed by the Department of Planning and Community Development.

### **Amend Section 6.1.5(C):**

C. **Transportation Demand Management (TDM):** Any request for parking reduction must include a plan to reduce demand for parking. TDM provides incentives to reduce the use of Single Occupant Vehicles and encourages the use of public transit, bicycling, walking, and ridesharing. All projects requesting a parking reduction must employ at least three TDM methods described below:

- (1) Charge for parking on-site;
- (2) Pay a stipend to workers or residents without cars;
- (3) Provide preferential parking for carpooling vehicles;
- (4) Provide a guaranteed emergency ride home;
- (5) Provide transit pass subsidies;
- (6) Provide covered bicycle parking and storage, if otherwise not required;

**Zoning Bylaw Amendments: Downtown Business Parking Minimums**  
**Additions to the Zoning Bylaw shown in underline format. Deletions shown in ~~strikeout format~~.**

- (7) Provide bicycle or car sharing on site;
- (8) Provide showers for business or industrial uses;
- (9) Other means acceptable to the applicable Special Permit Granting Authority.

When the applicable Special Permit Granting Authority determines that a business in a Business District other than B5 has no ability to create new parking onsite and that there is adequate nearby on-street parking or municipal parking, it may reduce to less than 25 percent or eliminate the amount of parking required in the Table of Off-Street Parking Regulations. In those circumstances, the applicable Special Permit Granting Authority may require the applicant to incorporate methods set forth in subparagraphs A., B., and C. of this section. The reductions described in this paragraph do not apply to residential use classes identified in Section 5.5.3. and are in addition to the exemption from the parking requirements for the first 3,000 square feet of non-residential space in a mixed-use development as set forth in Section 6.1.10.C.

**Zoning Bylaw Amendments: One- and Two-Family Usable Open Space**  
Additions to the Zoning Bylaw shown in underline format. Deletions shown in ~~strikeout format~~.

**ARTICLE 30 ZONING BYLAW AMENDMENT / ONE- AND TWO-FAMILY USABLE OPEN SPACE**

To see if the Town will vote to amend the Zoning Bylaw to completely remove the usable open space requirement for one- and two-family uses; or take any action related thereto.

(Inserted at the request of James Fleming and 10 registered voters)

**Discussion:**

tktktktktk

**VOTED:** ( / )

That... (no action be taken under Article 30 / the Zoning Bylaw be and hereby is amended as follows:)

**Amend Section 5.4.2(A): Tables of Dimensional and Density Regulations:**

Minimum/Maximum Requirements				
District	Use	Landscaped Open Space (Min.)	Usable Open Space (Min.)	Maximum Lot Coverage
R0	Permitted residential structure	10%	30%	35%
R1, R2	Permitted residential structure	10%	30%	35%
R3	<u>Single-family detached dwelling,</u> <u>two-family</u> <u>dwelling, duplex dwelling,</u>	<u>10%</u>	-----	-----
	<u>Single-family detached dwelling,</u> <u>two-family</u> <u>dwelling, duplex dwelling,</u> three-family dwelling; or other permitted structure except townhouse	10%	30%	
R4	<u>Single-family detached dwelling,</u> <u>two-family</u> <u>dwelling, duplex dwelling,</u>	<u>10%</u>	-----	<u>35%</u>
	<u>Single-family detached dwelling,</u> <u>two-family</u> <u>dwelling, duplex dwelling,</u> three-family dwelling	10%	30%	35%

**Zoning Bylaw Amendments: One- and Two-Family Usable Open Space**  
**Additions to the Zoning Bylaw shown in underline format. Deletions shown in ~~strikeout format~~.**

	Single-family detached dwelling, two-family dwelling, duplex dwelling, <del>three-family dwelling</del>	10%	30%	-----
	<u>Three-family dwelling, Townhouse, apartment building</u>	10%	30%	-----
R6	<u>Single or two-family dwelling, duplex dwelling</u>	<u>10%</u>	-----	-----
	<u>Single or two-family dwelling, duplex dwelling, three-family dwelling</u>	10%	25%	-----
R7	<u>Single or two-family dwelling, duplex dwelling</u>	<u>10%</u>	-----	-----
	Any <u>other</u> permitted principal structure	10%	15%	-----

**Amend Section 5.5.2(A): Tables of Dimensional and Density Regulations:**

Minimum/Maximum Requirements				
District	Use	Landscaped Open Space (Min.)	Usable Open Space (Min.)	Maximum Lot Coverage
B1	<u>Single-family detached dwelling, two-family dwelling, duplex dwelling,</u>	<u>10%</u>	-----	-----
	<u>Single-family detached dwelling, two-family dwelling, duplex dwelling, three-family dwelling</u>	10%	30%	-----
B2	<u>Single-family detached dwelling, two-family dwelling, duplex dwelling,</u>	<u>10%</u>	-----	-----

**Zoning Bylaw Amendments: One- and Two-Family Usable Open Space**  
**Additions to the Zoning Bylaw shown in underline format. Deletions shown in ~~strikeout format~~.**

	<del>Single family detached dwelling, two-family dwelling, duplex dwelling, three-family dwelling</del>	10%	30%	-----
B3	<u>Single-family detached dwelling, two-family dwelling, duplex dwelling,</u>	<u>10%</u>	-----	-----
	<del>Single family detached dwelling, two-family dwelling, duplex dwelling, three-family dwelling</del>	10%	30%	-----
B4	<u>Single-family detached dwelling, two-family dwelling, duplex dwelling,</u>	<u>10%</u>	-----	-----
	<del>Single family detached dwelling, two-family dwelling, duplex dwelling, three-family dwelling</del>	10%	30%	-----
B5	<u>Single-family detached dwelling, two-family dwelling, duplex dwelling,</u>	<u>10%</u>	-----	-----
	<del>Single family detached dwelling, two-family dwelling, duplex dwelling, three-family dwelling</del>	10%	30%	-----

Minimum/Maximum Requirements			
District Use	Landscaped Open Space (Min.)	Usable Open Space (Min.)	Maximum Lot Coverage
R0			

**Zoning Bylaw Amendments: One- and Two-Family Usable Open Space**  
**Additions to the Zoning Bylaw shown in underline format. Deletions shown in ~~strikeout format~~.**

Permitted residential structure	10%	<del>30%</del>	35%
R1, R2			
Permitted residential structure	10%	<del>30%</del>	35%

**Zoning Bylaw Amendments: Industrial District Animal Daycare Use**  
**Additions to the Zoning Bylaw shown in underline format. Deletions shown in ~~strikeout format~~.**

**ARTICLE 31 ZONING BYLAW AMENDMENT / INDUSTRIAL DISTRICT ANIMAL DAYCARE USE**

To see if the Town will vote to amend the Zoning Bylaw to update Section 5.6.3 USE REGULATIONS FOR MU, PUD, I, T, and OS DISTRICTS, to allow animal daycare; or take any action related thereto.

(Inserted at the request of Kristin Anderson and 10 registered voters)

**Discussion:**

tktktktktk

**VOTED:** ( / )

That... (no action be taken under Article 31 / the Zoning Bylaw be and hereby is amended as follows:)

**Amend SECTION 5.6.3:**

By adding the letter "Y" to the "Use Regulations for MU, PUD, IT, T, and OS Districts" table in Section 5.6.3,m in the row labeled "Veterinary and animal care; accessory overnight boarding only for veterinary/medical care in an enclosed building" under the column labeled "I"; so that last row under "Personal, Consumer, and Business Services" in the table reads as follows:

**5.6.3 Use Regulations for MU, PUD, I, T, and OS Districts**

Class of Use	MU	PUD	I	T	OS
<b>Personal, Consumer, and Business Services</b>					
Veterinary and animal care; accessory overnight boarding only for veterinary/medical care in an enclosed building			Y	Y	

## Zoning Bylaw Amendments: Build Affordable Housing Everywhere

Additions to the Zoning Bylaw shown in underline format. Deletions shown in ~~strikeout format~~.

## **ARTICLE 32 ZONING BYLAW AMENDMENT / BUILD AFFORDABLE HOUSING EVERYWHERE**

To see if the Town will vote to amend the Zoning Bylaw so developments of 100% affordable housing may be built by right in all zones, with lower requirements as well; or take any action related thereto.

(Inserted at the request of Thomas J. Perkins and 10 registered voters)

## Discussion:

The petitioner requested to withdraw the proposal via email to staff on March 21, 2023. As such, the ARB did not discuss this article.

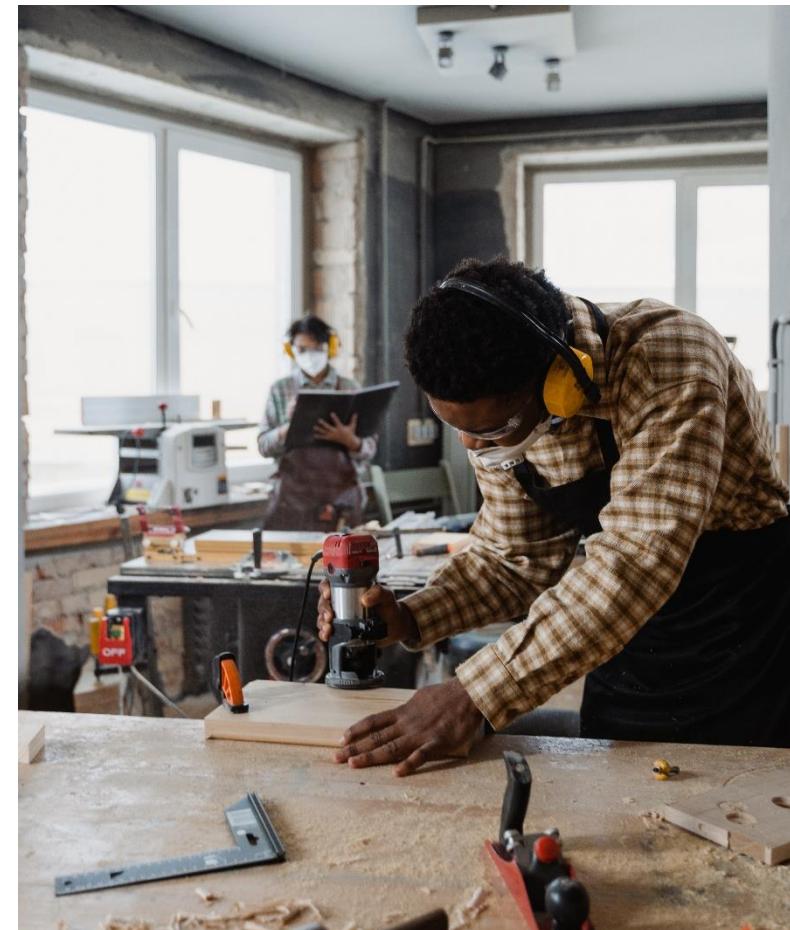
**VOTED:** ( / )

That... (no action be taken under Article 32 / the Zoning Bylaw be and hereby is amended as follows:)

# Land, Economy, Opportunity: Industrial Land Supply and Demand in Greater Boston

Produced by the Metropolitan Area Planning Council  
MetroCommon 2050

February 2023



*Photo credit: Tima Miroshnichenko, via pexels.com*  
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# Acknowledgments

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# Executive Summary

## Why this research?

### Industrial jobs are important for regional economic development, wage equity, and economic resilience and innovation

Revitalization of American industry is nationally acknowledged as critical to the country's economic strength, building a middle class, and equalizing wage disparities.<sup>1</sup> Economic studies<sup>2</sup> tie healthy manufacturing employment and ecosystems to greater economic resilience and innovation, which is of particular importance to the Boston region given its diversity of manufacturing firms, ranging from consumer-facing products like food and furniture to construction products. Production of medical devices,<sup>3</sup> pharmaceutical/therapeutics,<sup>4</sup> and aerospace and defense equipment<sup>5</sup> are also key regional economic drivers. The COVID-19 pandemic has caused ongoing supply chain disruption and accelerated preexisting shifts in industrial business operations and workforce needs. Workforce shortages and misperceptions of manufacturing jobs continue to compound the challenges industrial sectors face today.<sup>6</sup>

This study of industrial land use in the Boston region provides insight into the issues faced by greater Boston's industrial businesses and workforce. Manufacturing and other industrial jobs have been a traditional method of gaining a foothold in the American economy over the course of the country's history, and inclusive economic development is closely linked to these industries.<sup>7</sup> We define industrial businesses as those involving production, distribution, and repair activities, which include construction, manufacturing, wholesale trade, transportation, and warehousing. Real estate pressures, namely that of converting land to its "highest and best use," often result in conversion of industrial land to uses such as commercial or residential for financial benefit. As described in the Land Use Analysis of this report, greater Boston has experienced measurable losses of industrial land over the last decade. In 2021, there were 30,600 acres of existing industrial land, accounting for approximately 3.3% of the total developable<sup>8</sup> land in the region, but the region lost 10.9 million square feet of built industrial space between 2011 and 2021. Nearly 75% of this loss occurred in the Metropolitan Area Planning Council's Inner Core,<sup>9</sup> which boasts the highest land values in the region.

## Challenge

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<sup>1</sup> Stettner, A. & Williams, R. C. (2021) Industry and Inclusion: A Blueprint for Action. *The Century Foundation*. Retrieved from 12/20/22 at <https://tcf.org/content/report/industry-inclusion-blueprint-action/>

<sup>2</sup> Scott, R. E. (2015). The Manufacturing Footprint and the Importance of U.S. Manufacturing Jobs. *Economic Policy Institute*. Retrieved from <https://www.epi.org/publication/the-manufacturing-footprint-and-the-importance-of-u-s-manufacturing-jobs/>

<sup>3</sup> LQ of 1.94, BLS QCEW 2021

<sup>4</sup> LQ of 1.6 BLS QCEW 2021

<sup>5</sup> LQ of 1.16 BLS QCEW 2021

<sup>6</sup> Wellener, P., Reyes, V., Moutray, C., & Hardin, K. (2022). Competing for talent: Recasting perceptions of manufacturing. *Deloitte Insights*. Retrieved from <https://www2.deloitte.com/us/en/insights/industry/manufacturing/competing-for-manufacturing-talent.html>

<sup>7</sup> Stettner, A. & Williams, R. C. (2021) Industry and Inclusion: A Blueprint for Action. *The Century Foundation*. Retrieved from 12/20/22 at <https://tcf.org/content/report/industry-inclusion-blueprint-action/>

<sup>8</sup> Represents total land area within the MAPC region except area under water bodies, permanently protected land area, and land under roadways.

<sup>9</sup> <https://www.mapc.org/get-involved/subregions/icc/>

## **Industrial land, and thus industrial businesses and jobs, are facing external and internal pressures**

While industrial space in greater Boston declined 3.5% over the past ten years, the utilization of remaining space increased by 6.5 percentage points over that same period, from 89% to 96% – in other words, there is more industrial space in use in 2021 than there was in 2011. Industrial space that sat vacant in 2011 (approximately 36 million square feet, or 11% of regional inventory<sup>10</sup>) provided a cushion to allow for industrial sector growth. Despite this cushion, rents grew by 34 - 41% (adjusted to 2021 dollars), indicating strong demand and willingness to pay by industrial users. Now, regional industrial vacancy rates have decreased significantly (to 4.4%) and there is no more cushion for additional loss. Any increase in demand or continued loss of industrial space not compensated for by new construction will continue to drive rent increases, threatening the survival of industrial firms throughout the region.

If the regional industrial base continues to deteriorate due to real estate absorption and loss, long term damage to the Boston region's economic strength and resilience may occur. As industrial market rents are driven upward, many businesses, particularly smaller firms without a corporate support system, may be priced out of the areas where their presence is needed to maintain a diverse job market with the relatively high wages that industrial jobs provide. Compared to industrial sector wages, the median annual earnings for workers without a college degree in non-industrial sectors, like food service and retail, is \$12,000 to \$22,000 less per annum. As these high-paying businesses move out of the population-dense Inner Core, workers may experience longer commute times or be unable to access industrial jobs at all due to a lack of consistent public transportation options.

## **Environment and Equity**

### **Industrial displacement exacerbates environmental pressures and racial wealth gaps**

Declining industrial inventory can contribute to regional labor market imbalances, harmful environmental impacts, and inequity. As industrial businesses are outpriced and move out from the core, it becomes more difficult to hire and retain workers. The mismatch between job centers and public transit access leads to more workers undertaking long-distance, single occupancy car commutes<sup>11</sup>, worsening traffic conditions and increasing emissions. Industrial outmigration likely also increases truck travel, stressing the region's transportation infrastructure, harming air quality and public safety, and increasing congestion. The equity implications of the decline are shown in the disproportionate impact that workers of color and workers without college degrees experience due to loss of well-paying industrial jobs, thereby exacerbating racial and economic segregation in the region.

The decline of manufacturing employment opportunities has had devastating effects on Black, Hispanic, and other workers of color due to the lower-wage options available to workers without college degrees in non-industrial sectors.<sup>12</sup> The comparatively high pay, good

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10 CoStar

11 Reverse Commute Areas Analysis, Boston Region Metropolitan Planning Organization (2019), accessed at: <https://www.bostonmpo.org/reverse-commute-areas-analysis>

12 Scott, R. E., Wilson, V., Jori, K., & Perez, D. (2022). Botched policy responses to globalization have decimated manufacturing employment with often overlooked costs for black, Brown, and other workers of color: Investing in infrastructure and rebalancing trade can create good jobs for all. *Economic Policy Institute*. Retrieved from <https://www.epi.org/publication/botched-policy-responses-to-globalization/>

benefits, and unionization opportunities that industrial jobs offer are available to workers from backgrounds where a college education or English language proficiency were not accessible. Workers without a college degree or English language proficiency in the Boston region are disproportionately represented by Black, Hispanic, and other workers of color.

The Boston region has a notable racial wealth gap; the Federal Reserve Bank of Boston's 2015 "The Color of Wealth in Boston" report<sup>13</sup> found that the net worth of the median Black household in the region is \$8, while the median White household wealth is \$247,500. Workers of color comprise 28% of the industrial workforce, which is higher than most major industries in greater Boston. While wages are higher in industrial occupations, racial wage gaps remain large, even among workers without a college degree. However, the core non-managerial, non-engineering industrial occupations - namely, physical production activities - show a smaller racial wage gap. Addressing racial wage gaps experienced by Black, Latinx, and Asian American and Pacific Islander (AAPI) populations across industries and occupations<sup>14</sup> is critical to the Boston region's economic future.

## Opportunity

### **There is opportunity to rethink the utilization of industrial space and an imperative to retain it**

This report was conducted to establish a baseline understanding of the industrial sector in the MAPC region through research and analysis of industrial land use trends, how industrial occupations compare to occupations in other sectors with similar educational and English language requirements, and how industrial land use has changed in the Boston region over the past ten years. It is the first attempt by MAPC to provide an overview of the region's industrial sector. It should be used as a foundation for additional research and inquiry that can support local and state decision making.

The "key takeaways" summaries at the end of each section of this report highlight the economic impacts of industrial displacement for the consideration of policymakers, economic development stakeholders, developers, and others. Combined with rapidly increasing housing prices, the loss of accessible and family-sustaining jobs provided by industrial businesses has the potential to exacerbate resident displacement and racial wealth gaps already experienced in the Boston metropolitan area.

## Recommendations

### **To begin building policies and programs that mitigate the loss of industrial real estate in the region, MAPC recommends taking the following actions, further outlined in the recommendations section of this report:**

- Forecast industrial real estate needs to maintain a strong industrial sector and equitable and accessible jobs in the region.
- Incentivize industrial retention through creative zoning and financial incentives.
- Build intentional transportation networks that connect industrial businesses to needed labor.

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13 Muñoz, A.P.; Kim, M.; Chang, M.; Jackson, R. O.; Hamilton, D.; & Darity Jr., W. A. (2015). The Color of Wealth in Boston. *Federal Reserve Bank of Boston*. Retrieved from <https://www.bostonfed.org/publications/one-time-pubs/color-of-wealth.aspx>

14 MAPC Comprehensive Economic Development Strategy, January 2021

### **Note on COVID-19**

COVID-19 continues to upend the economy and real estate market in the region. This research is conducted within the context of ongoing shifts in the industrial landscape – particularly in the warehousing, transportation, and logistics sectors. We acknowledge the existing trends of land consolidation by global logistics firms that command the warehouse market, pricing out smaller operators and other types of industrial businesses, and the potential impact this can have on job quality, business diversity, and supply chain development within the MAPC region. While the long-term effects of COVID-19 on production, delivery, commuting, and shopping remain unknown, these macro trends are likely to continue and must be addressed irrespective of the pandemic's long-term impacts.

### **Note on Adjacent Study**

MAPC also worked with the Town of Stoughton through its *Campanelli Rezoning Study & Recommended I-2 Zoning Bylaw Text, Policy & Map Amendments* report of January 2022. Some of the findings from the MAPC-led section of the Campanelli rezoning report will be incorporated throughout this study.

# Introduction

## Why Industrial?

Over the past ten years, the Boston regional economy has thrived. The Gross Regional Product has risen significantly,<sup>15</sup> driven by key industries such as healthcare, technology, finance, life sciences, and professional and technical services. Despite these strengths, a more in-depth analysis reveals that the region's growing economy worked well for some, but not for others. A majority of jobs within these growth sectors require high levels of education as a prerequisite for employment, which poses a significant barrier to many of the region's residents. Residents without a college degree earn significantly less than those with a degree, a trend that plays out along racial lines as well, with Black, Latinx, and Asian American and Pacific Islander (AAPI) workers earning less than White workers in similar industries and occupations.<sup>16</sup>

While many organizations, researchers, elected officials, and civil servants have worked tirelessly to develop and deploy funding, programs, and policies designed to ameliorate these inequities, the Boston region continues to be a stark example of a binary low wage/high wage economy and racial wealth divide.<sup>17</sup> One of the reasons for this polarized job market is the loss of middle-wage jobs that are accessible to individuals without higher education or English language skills; jobs that are frequently found in the industrial sector.<sup>18</sup> Manufacturing jobs have been a traditional method of gaining a foothold in the American economy over the course of the country's history, and inclusive economic development is closely linked to manufacturing. Communities of color have depended on manufacturing jobs as a pathway to the middle class, particularly during the Great Migration northward during the first half of the twentieth century. Deindustrialization in the latter half of the twentieth century hurt urban Black and Latinx communities the hardest, and today, U.S. manufacturing workers are 67% White non-Hispanic.<sup>19</sup>

Revitalizing American industry is nationally recognized as critical to the country's economic recovery and long-term prosperity,<sup>20</sup> but policymakers at the state and local levels frequently misunderstand or undervalue the role that manufacturing or other industrial activities play within their local economies. Tropes regarding "underutilized real estate" or "an already dying sector" have led to policy decisions that may be contributing to the ongoing deterioration of these sectors in the places where they are needed most – urban areas with high concentrations of non-college-educated workers. This occurs while the average national wage premium for

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<sup>15</sup> Boston Indicators, U.S. Bureau of Economic Analysis, Federal Reserve Economic Data, & Federal Reserve Bank of St. Louis.

<sup>16</sup> MAPC Comprehensive Economic Development Strategy, January 2021

<sup>17</sup> Muñoz, A.P.; Kim, M.; Chang, M.; Jackson, R. O.; Hamilton, D.; & Darity Jr., W. A. (2015). The Color of Wealth in Boston. *Federal Reserve Bank of Boston*. Retrieved from <https://www.bostonfed.org/publications/one-time-pubs/color-of-wealth.aspx>

<sup>18</sup> Adult Workers with Low Measured Skills: A 2016 Update (2016). U.S. Department of Education Office of Career, Technical and Adult Education.

<sup>19</sup> Stettner, A. & Williams, R. C. (2021) Industry and Inclusion: A Blueprint for Action. *The Century Foundation*. Retrieved from 12/20/22 at <https://tcf.org/content/report/industry-inclusion-blueprint-action/>

<sup>20</sup> The Biden Plan to Ensure the Future is "Made in All of America" by All of America's Workers. *Biden Harris Democrats*. Retrieved from <https://joebiden.com/made-in-america/>

manufacturing workers without a college degree was 10.9% in 2012-2013 (with variation depending on the industry and location) compared to nonmanufacturing industries.<sup>21</sup>

The preservation of industrial land should be accompanied by equitable expansion of access to jobs in the sector. The industrial sector is experiencing significant labor shortages, with 2.1 million unfilled manufacturing jobs expected by 2030;<sup>22</sup> the National Association of Manufacturers shows that “attracting and retaining a quality workforce” is the top issue manufacturing employers experience today.<sup>23</sup> Partial solutions cited by the 2021 Deloitte and The Manufacturing Institute Manufacturing Talent study<sup>24</sup> include automation – which has already begun to drastically redefine the industry – and efforts to promote a more equitable and inclusive work environment for the manufacturing workforce. This, along with the comparatively high wages that manufacturing provides, has clear benefits for workers of color without college degrees or English language proficiency, and the manufacturing industry benefits by attracting and retaining workers. This could also benefit the long-term economic health of greater Boston by helping to close the racial wealth gap and establishing a diverse and stable labor pool. This study shows that greater Boston may pursue this opportunity and further inclusive economic development by strategically considering industrial land use.

## Defining Industrial

The industrial base of the Boston region has undergone dramatic shifts over the past 50 years. These shifts are reflected in industry trends, including the movement from mass production to just-in-time<sup>25</sup> and make-to-order<sup>26</sup> modes of production, the limited use of expensive robotics, the widespread use of inexpensive robotics, transitioning from centralized to distributed logistics systems, developing more sustainable processes than the former polluting and consumptive production processes, and switching from demand for lower-skilled, inexpensive labor to a growing need for a more educated and specialized workforce.<sup>27</sup> More research is needed to study the wage implications of these shifts for workers without access to bachelor's degrees or higher in industrial sectors.

Within that context, it is important to clarify what types of businesses are associated with the “industrial” sector. A review of relevant literature<sup>28</sup> indicates an important shift away from interpreting ‘industrial’ as synonymous with ‘manufacturing’ to account for the diverse nature of today’s business ecosystem. Instead, the more descriptive categorization of “Production, Distribution, and Repair,” or PDR, has

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21 Scott, R. E. (2015). The Manufacturing Footprint and the Importance of U.S. Manufacturing Jobs. *Economic Policy Institute*. Retrieved from <https://www.epi.org/publication/the-manufacturing-footprint-and-the-importance-of-u-s-manufacturing-jobs/>

22 Wellener, P.; Reyes, V.; Ashton, H.; & Moutray, C. (2021). Creating Pathways for Tomorrow’s Workforce Today: Beyond Reskilling in Manufacturing. Retrieved from <https://www2.deloitte.com/us/en/insights/industry/manufacturing/manufacturing-industry-diversity.html/#the-growing>

23 The National Association of Manufacturers. 2020. “NAM Manufacturers’ Outlook Survey: Fourth quarter 2020”. Retrieved from <https://www.nam.org/wp-content/uploads/2020/12/NAM-Q4-2020-Manufacturers-Outlook-Survey.pdf>

24 Wellener, P.; Reyes, V.; Ashton, H.; & Moutray, C. (2021). Creating Pathways for Tomorrow’s Workforce Today: Beyond Reskilling in Manufacturing. Retrieved from <https://www2.deloitte.com/us/en/insights/industry/manufacturing/manufacturing-industry-diversity.html/#the-growing>

25 The just-in-time (JIT) inventory system is a management strategy that aligns raw-material orders from suppliers directly with production schedules. Companies employ this inventory strategy to increase efficiency and decrease waste by receiving goods only as they need them for the production process, which reduces inventory costs. This method requires producers to forecast demand accurately. Access more information: <https://www.investopedia.com/terms/j/jit.asp>

26 What Is Make to Order (MTO)? Make to order (MTO), or made to order, is a business production strategy that typically allows consumers to purchase products that are customized to their specifications. It is a manufacturing process in which the production of an item begins only after a confirmed customer order is received. It is also known as mass customization. Access more information: <https://www.investopedia.com/terms/m/make-to-order.asp>

27 Lester, T. W.; Kaza, N.; & Kirk, S. (2014). Making Room for Manufacturing: Understanding Industrial Land Conversion in Cities. *Journal of the American Planning Association*, 79(4), 295-313. DOI: 10.1080/01944363.2014.915369.

28 Dempwolf, C. S.; Leigh, N.G.; Kraft, B. R.; & Hoelzel, N. Z. (2014). Sustainable Urban Industrial Development. *American Planning Association*, Volume 577 of *Pos Report*. ISBN 9781611901252.

emerged. The PDR definition reflects a broader scope of business types as defined under the following North American Industry Classification System (NAICS) codes:

- Construction (23)
- Manufacturing (31-33)
- Wholesale Trade (42)
- Transportation and Warehousing (48-49)
- Repair and Maintenance (811)

For purposes of this report, the term “Industrial” reflects the PDR definition described above.

## Real Estate

Industrial businesses, like all businesses, are subject both to local zoning regulations and the market forces that drive availability and prices of real estate in the region. Industrial operators are in some ways more reliant on real estate than other types of businesses due to the physical nature of their work and the need for storage and specialized equipment. However, our research shows that these spaces have become increasingly difficult to find due to significant contraction of the Boston region's industrial real estate supply. Nearly 10 million net square feet of built space (3.5% of total regional inventory) has been lost over the past 10 years. The City of Boston itself has rezoned many industrial areas in favor of developers attracting businesses in the information and technology sector, or housing developers providing market rate and affordable housing.<sup>29</sup> Displaced industrial businesses in Boston might struggle to find new space as other regional municipalities become similarly amenable to the rezoning of industrial areas. Opportunities for increased tax revenues or accommodation of the region's dire need for housing are an enticing replacement; the land value of housing can be significantly higher than industrial uses.

As industrial displacement unfolded over the last decade, there has been a lack of research on how and where changes in the region's industrial real estate have occurred. Nearly two decades have passed since the last concerted effort<sup>30</sup> to quantify the landscape of industrial land use, jobs, and businesses in the MAPC region.

This lack of research has left many advocates, elected officials, and regulating agencies without a clear picture of how this issue may impact the regional economy and access to well-paying jobs among workers without access to higher education or English language proficiency.

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29 Logan, T. (2015). Soaring rents squeezing Boston-based industrial firms. *Boston Globe*. Retrieved from <https://www.bostonglobe.com/business/2015/09/22/industrial-companies-feel-squeeze-hot-boston-real-estate-market/5slRyJlelGUfrJkxtlB9MP/story.html>

30 City of Boston & Boston Redevelopment Authority (2002). Boston's Industrial Spaces: Industrial Land and Building Spaces in Boston and its Neighborhoods. Retrieved from <https://www.bostonplans.org/getattachment/b66a1c8d-739b-42bd-b99f-039ec4e55f84>

## Report Goals

As a regional planning agency, MAPC has a unique position to play in filling this gap and advancing strategies that will result in deliberate discussions on industrial land use. As the Boston region struggles to supply enough housing at affordable levels to accommodate a diversity of household sizes and incomes, we highlight the need for a parallel conversation regarding improvement of regional job opportunities and wages – particularly among populations without access to higher education or English language proficiency.

The following analysis of industrial land use trends within the MAPC region is the start of what we hope will become an ongoing effort by state and local actors to integrate industrial land use policy and planning into economic development, housing, and transportation initiatives. The goal of this report is to provide baseline information on industrial real estate and the industrial workforce as a resource for municipal planners, planning and zoning board members, housing planners, transportation planners, real estate developers, and business support organizations. The research presented and recommendations offered are not exhaustive, and there are many further lines of inquiry that should be explored in subsequent studies.

The principal questions this report investigates are the following:

- What are the key trends of industrial land use in greater Boston?
- How do industrial occupations compare to occupations in sectors with comparable educational and English language requirements?
- How has industrial land use changed in the Boston region over the past ten years?

## Literature Review

### Key Themes

A brief literature review provided us a baseline understanding of industrial land use and its connection to well-paying and accessible jobs. The review sets parameters around business types, occupations, and land use types to include in subsequent analysis. Key themes from the literature regarding best practices for industrial land management for regional and local economic development stakeholders are identified below.

**“Highest and best” may not be the best:** A common rationale for the conversion of industrial land to non-industrial uses is that land should reflect its “highest and best,” or highest value, land use.<sup>31</sup> Therefore, an industrial district in a growing part of a city

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<sup>31</sup> Chapple, K. (2014). The Highest and Best Use? Urban Industrial Land and Job Creation. *Economic Development Quarterly*, 28(4), 300-313. doi: 10.1177/0891242413517134

should be converted to non-industrial if developers are willing to outbid existing industrial users for the land. This argument is generally supported on efficiency grounds, but it runs a high risk of devaluing the role of industrial use in greater urban and regional economic development and wage equity. This issue is exacerbated in hot market areas where commercial and housing land values outstrip industrial value.

**Large logistics firms restrict options for other industrial businesses:** High demand for industrial real estate, particularly in urban centers, partially stems from growth in warehouse and distribution centers. Consumer demand for e-commerce has resulted in an increase of large logistics firms and a resulting displacement of smaller logistics firms or other industrial users in urban areas. A recent MAPC regional report<sup>32</sup> on e-commerce trends shows that in the city of Boston alone, warehouse rents increased 42% over the last two years. The pressure experienced by e-commerce companies to maintain dependable and fast delivery times has resulted in small warehouse and distribution centers locating closer to consumers, a trend that shows no sign of changing.<sup>33</sup> This may accelerate the existing trend of land consolidation by global logistics firms that command the warehouse market, pricing out smaller operators and other types of industrial businesses. This in turn may impact job quality, business diversity, and supply chain development within the MAPC region and the broader Northeastern U.S.

**Space requirements lead to supply & demand mismatch:** A report<sup>34</sup> from the Urban Manufacturing Alliance on spatial needs of the manufacturing industry provides insight into the lack of affordable production space at the right size. Access to production space is a challenge across the U.S. Baltimore, Cincinnati, Detroit, and Milwaukee are all home to ample vacant industrial space, but small firms are unable to afford subdivision and rehabilitation costs. Portland and Philadelphia, on the other hand, see low vacancy rates for production spaces, but high demand causes similar unaffordability for small firms. Proximity to workforce, suppliers, transportation, and consumers all remain a challenge for industrial users as they are forced to locate further from the inner core of American cities. The report recommends conducting a thorough market study to help cities and developers quantify industrial needs and determine where to create small, move-in-ready spaces on spec.<sup>35</sup>

**Good jobs are hard to find when industry leaves town:** Manufacturing job losses associated with globalization have significantly impacted the U.S. workforce and people of color in particular. The growing trade deficit with China has been a major contributing factor; between 2001 and 2011, this trade deficit caused the U.S. to lose 958,800 jobs held by workers of

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32 Felix, A. and Pollack, T. (2021). Hidden and in Plain Sight: Impacts of E-Commerce in Massachusetts. *Metropolitan Area Planning Council MetroCommon 2050*. Retrieved from <https://www.mapc.org/wp-content/uploads/2021/02/Feb2021-Ecommerce-Report.pdf>

33 Matthews, W. & Dawson, S. (2014). The Shed of the Future: E-commerce: Its Impact on Warehouses. *Deloitte Real Estate*. Retrieved from <https://www2.deloitte.com/content/dam/Deloitte/ch/Documents/consumer-business/ch-en-cb-deloitte-the-shed-of-the-future.pdf>

34 Foggin, M. (2019). The State of Urban Manufacturing National Report. *Urban Manufacturing Alliance*. Retrieved from <https://www.urbanmfg.org/wp-content/uploads/2017/11/SUM-National-Report-Final.pdf>

35 Different types of industrial businesses require different sizes of space. Ensuring a diversity of sizes in available real estate is an important element of business retention. As smaller businesses graduate out of startup spaces, their operations are especially sensitive to the size and readiness of the industrial space they can afford. Additionally, space requirements vary based on the type of industrial activity and its operations. Further research is needed to understand the sizes of industrial parcels in the region.

color, about three quarters of which were in manufacturing.<sup>36</sup> These job losses in manufacturing forced many workers and job seekers to shift toward lower-wage jobs in the service sector that offer fewer benefits and fewer unionization opportunities.

A study on employment impacts of neighborhood gentrification on labor markets<sup>37</sup> suggests that gentrification - the "process of neighborhood-based class changes that involve an influx of middle and upper class residents into urban areas that once housed low-income or working class populations" - may significantly impact the type of available jobs in certain urban neighborhoods. Neighborhood gentrification caused employment growth, but restaurant and retail jobs increased significantly while manufacturing jobs decreased. Workers with low to moderate training either have to forgo relatively high-paying positions in the manufacturing sector for lower paying ones such as restaurant jobs, or undertake retraining or additional education. Wage gap analyses undertaken in various studies show that industrial employment provides higher pay for workers lacking advanced degrees than other sectors. The region is currently experiencing a middle-skill jobs squeeze, as well as exploitatively low wages for workers without a college degree; the higher quality and better paying jobs found in the industrial sector could provide a path forward. Additionally, economic development and regional studies<sup>38</sup> tie healthy manufacturing employment and ecosystems to greater regional economic resilience and innovation.

A 2015 report from the Economics and Statistics Administration<sup>39</sup> using data from 10 federal data sources found that manufacturing jobs maintain a paid premium over four equivalent jobs in the rest of the private sector. When considering weekly wages over the course of the year, the size of pay premium may be up to 32% depending on the definition of worker and job type, but a premium persists across all combinations.

Another report<sup>40</sup> found that 62% of workers without higher education degrees work within the non-industrial sectors of retail, hospitality, and food service, or industrial sectors of repair, transportation and warehousing, wholesale trade, manufacturing, and construction. We will compare these sectors throughout the report. For policymakers and researchers concerned about income inequality and access to greater benefits, manufacturing sector jobs provide a unique opportunity for workers and the regional economy.

**Smaller industrial firms thrive in urban environments:** A Brookings report<sup>41</sup> on urban manufacturing highlights the benefits that smaller manufacturing firms find by locating in dense urban spaces, including proximity to customers, suppliers, and the

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36 Scott, R. E., Wilson, V., Jori, K., & Perez, D. (2022). Botched policy responses to globalization have decimated manufacturing employment with often overlooked costs for black, Brown, and other workers of color: Investing in infrastructure and rebalancing trade can create good jobs for all. *Economic Policy Institute*. Retrieved from <https://www.epi.org/publication/botched-policy-responses-to-globalization/>

37 Lester, T. W. & Hartley, D. A. (2014). The Long Term Employment Impacts of Gentrification in the 1990s. *Regional Science and Urban Economics* 45, 80–89. doi:10.1016/j.regsciurbeco.2014.01.003

38 Doussard, M.; Schrock, G.; & Lester, T. W. (2016). Did US regions with manufacturing design generate more production jobs in the 2000s? New evidence on innovation and regional development. *Urban Studies* 54(13), 3119-3137. doi:10.1177/0042098016663835

39 Nicholson, J. R. & Powers, R. (2015). The Pay Premium for Manufacturing Workers as Measured by Federal Statistics. *Washington DC: US Department of Commerce, Economics and Statistics Administration*.

40 Adult Workers with Low Measured Skills: A 2016 Update. (2016). *U.S. Department of Education Office of Career, Technical and Adult Education*.

41 Byron, J. & Mistry, N. (2011). The Federal Role in Supporting Urban Manufacturing. *The Brookings Institution*. Retrieved from <https://www.brookings.edu/research/the-federal-role-in-supporting-urban-manufacturing/>

large skilled labor markets that metropolitan areas provide. Locating in an urban area provides a competitive advantage to small businesses. Another study<sup>42</sup> within the Greater London region similarly notes that the drop in industrial inventory is disproportionately experienced by small industrial businesses, including repair and recycling. More research is needed to understand the extent to which these trends affect the MAPC region.

## Case Study – London’s Industrial Land Supply and Economy Study

Changes in industrial real estate are occurring in metropolitan areas across the U.S. and globally. While concerted efforts to manage the supply of industrial real estate in hot markets like Boston are few and far between, some initiatives underway in other regions could guide future efforts – one being that of London, United Kingdom.

The Office of the Mayor of London produced the “London Plan,”<sup>43</sup> a strategic land-use guide for the greater London region as part of the city’s master planning efforts. One element of the London Plan is an industrial land use strategy that includes benchmarks for industrial land release (rezoning) within the region, guided by a thorough analysis of industrial land supply.<sup>44</sup> The London Plan also makes provisions to preserve a sufficient supply of quality sites for industrial use by protecting land from real estate pressures that might otherwise deplete the needed industrial land supply over time.

The study distinguishes three categories of industrial land for regulatory purposes and proposes benchmarks and policies using these categories to manage industrial land release:

- **Strategic Industrial Locations (SIL)** are the region’s main reservoirs of industrial land. There are two types of SILs - preferred industrial locations and industrial business parks. Development proposals within or adjacent to SILs are reviewed to ensure they don’t compromise the ability of these locations to accommodate industrial-type activities.
- **Locally Significant Industrial Sites** are sites that hold particular local importance for industrial and related functions. These spaces undergo periodic review (similar to SILs) in order to manage supply and demand of industrial land.
- **Non-designated industrial land** encompasses sites that are industrially zoned but under-utilized or better suited to respond to other land pressures such as housing developments.

While these site categories provide regulatory guidelines for industrial land management, the London Plan also outlines types of responses to diminishing industrial land in the greater London region to support development decisions. The following trends are recognized by periodically conducted land parcel analysis.

1. **Intensification** – This development response accommodates more activity on a given area of land. This could range from firms installing mezzanines in an existing site to increasing floor to ceiling heights. Major industrial developers in the London

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42 Bosetti, N.; Quarshie, N.; & Whitehead, B. (2002). *Making Space: Accommodating London’s industrial future*. Center for London. Retrieved from [https://www.ealing.gov.uk/download/downloads/id/17383/industrial\\_land\\_report.pdf](https://www.ealing.gov.uk/download/downloads/id/17383/industrial_land_report.pdf)

43 Greater London Authority (2021). *The London Plan: The Spatial Development Strategy for Greater London*. Retrieved from [https://www.london.gov.uk/sites/default/files/the\\_london\\_plan\\_2021.pdf](https://www.london.gov.uk/sites/default/files/the_london_plan_2021.pdf)

44 Brooke, R.; Openshaw, G.; Howells, J.; Deshpande, P.; Tindale, J.; & Baldwin, S. (2016). *London Industrial Land Supply and Economy Study, 2015*. Greater London Authority in association with AECOM. Retrieved from [https://www.london.gov.uk/sites/default/files/industria\\_land\\_supply\\_and\\_economy2015.pdf](https://www.london.gov.uk/sites/default/files/industria_land_supply_and_economy2015.pdf)

area are now even considering building multi-story warehouses. In North America, vertical industrial buildings are being developed, with notable new projects in Vancouver, Seattle, San Francisco, and New York<sup>45</sup> – areas facing some of the highest levels of land pressure. Further research is needed to identify space needs of various industrial sub-sectors and the flexibility of existing industrial inventory to accommodate those needs.

2. **Substitution** – This operational response appears when firms revise their business models in response to the change in cost and supply of industrial land. Some firms that wish to continue to serve the London market but cannot afford the high cost of real estate may choose to move outside of the City's boundaries to more affordable areas. There is greater scope for widespread adoption of spatial substitution among logistics operators, but this depends on available land.
3. **Co-location** – This planning response explores mixed industrial and residential development given that much of the pressure on industrial land comes from residential development. Historically, the market has proven skeptical about such development, but as land pressures intensify and industries become quieter and cleaner, innovative solutions are underway. A critical aspect of these designs is separate vehicular access so that the residential uses do not come into conflict with commercial traffic. As work and workstyles continue to evolve, there may be more opportunities to integrate work and living.

## Previous studies in the Boston Region

The most recent industrial land use study in the Boston region is Boston's 2002 "Back Streets" program,<sup>46</sup> which exclusively studied the City of Boston and its neighborhoods. The study aimed to preserve and promote the growth of eight established industrial areas by assessing the comprehensive and strategic use of industrial land, job training, and financial resources in Boston. Conducted by the mayor and the Boston Redevelopment Authority, the study found that industrial land accounted for 5% (1,565 acres) of Boston's land area with a vacancy rate of 2.7%, which totaled 46,000 jobs.

Since the release of Boston's Back Streets report nearly two decades ago, there has been no concerted effort by any municipality, regional entity, or state agency to comprehensively quantify the landscape of industrial land use, jobs, and businesses in Eastern Massachusetts. This report serves as the starting point for what should become ongoing research and analysis, akin to London's work, as part of a regional economic development plan.

## Key Takeaways

- Inventorying industrial land use is a critical first step to understanding market demand, potential land release and associated management, and needed preservation.

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<sup>45</sup> Haag, M. (2022). Warehouses Transform N.Y.C. Neighborhoods as E-Commerce Booms. *The New York Times*. Retrieved from <https://www.nytimes.com/2022/03/16/nyregion/ecommerce-warehouses-nyc.html>

<sup>46</sup> City of Boston & Boston Redevelopment Authority (2002). Boston's Industrial Spaces: Industrial Land and Building Spaces in Boston and its Neighborhoods. Retrieved from <https://www.bostonplans.org/getattachment/b66a1c8d-739b-42bd-b99f-039ec4e55f84>

- Research literature suggests that public benefit can result from active planning for and monitoring of industrial land if properly designed.
- Given the opportunity, the real estate industry will accommodate industrial demand, but it requires clear and consistent messaging from regulatory entities at local, regional, and state levels.
- The Greater Boston Region has a critical lack of study in this topic area.

## Industrial Business and Occupational Analysis

As described in the literature review, existing research acknowledges the wage advantages that the industrial industry offers for workers with limited educational or English language capacity. Furthermore, research conducted by the Economic Policy Institute demonstrates that within occupations that have a physical work product and are therefore easier to evaluate objectively, a smaller wage gap exists between White workers and workers of color.<sup>47</sup>

The following analysis has been conducted to frame these key concepts within the Boston metro region from both an industry and occupational perspective.

### Methodology

Employment trends presented in this report are broadly divided into two categories – industrial trends and occupational trends. For this analysis, we compared industrial sectors as defined earlier in this report against Retail Trade and Accommodation & Food Services sectors. For industry-level employment trends and worker characteristics, we utilized 5-year 2015-19 American Community Survey Public Use Microdata Sample (ACS PUMS)<sup>48</sup> as well as Employment and Wage (ES-202)<sup>49</sup> data.

ACS PUMS data were used to generate insights on wage levels in industry sectors, and cross-tabulated by various demographic variables for the MAPC region. The 5-year data are collected through surveys conducted over 60 consecutive months; raw data are weighted to represent values based on estimated population and inflation rates. Inflation-adjusted wage levels for workers in Production, Distribution, & Repair (PDR) industries were cross-tabulated across three major demographic variables: educational attainment, reported race and ethnicity, and English proficiency. Industry sectors corresponding to PDR were Construction, Repair, Manufacturing, Wholesale Trade, and Transportation & Warehousing, and were compared to Retail Trade and Accommodation & Food Services sectors. We primarily focused on cross-tabulations for median annual wages for workers with no or limited English proficiency, and those with a High School Diploma or less as educational levels for this report.

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<sup>47</sup> Grodsky, E. & Pager, D. (2001). The Structure of Disadvantage: Individual and Occupational Determinants of the Black-White Wage Gap. *American Sociological Review*, 66(4), 542-567.

<sup>48</sup> PUMS Documentation (2021). U.S. Census Bureau American Community Survey. Retrieved from <https://www.census.gov/programs-surveys/acs/microdata/documentation.html>

<sup>49</sup> Employment and Wage<sup>49</sup> (ES-202). Note: Data was extracted for specifically the MAPC region. Retrieved from <https://lmi.dca.eol.mass.gov/lmi/CitiesAndTowns>

Similarly, ES-202 data were utilized to generate establishment and employment insights by industry in the MAPC region. ES-202 data are derived from reports filed by all state and federal employers subject to unemployment compensation laws. Industries are defined using NAICS codes. We utilized this dataset for longitudinal analysis spanning 2011 to 2019.

## Industrial Business Composition

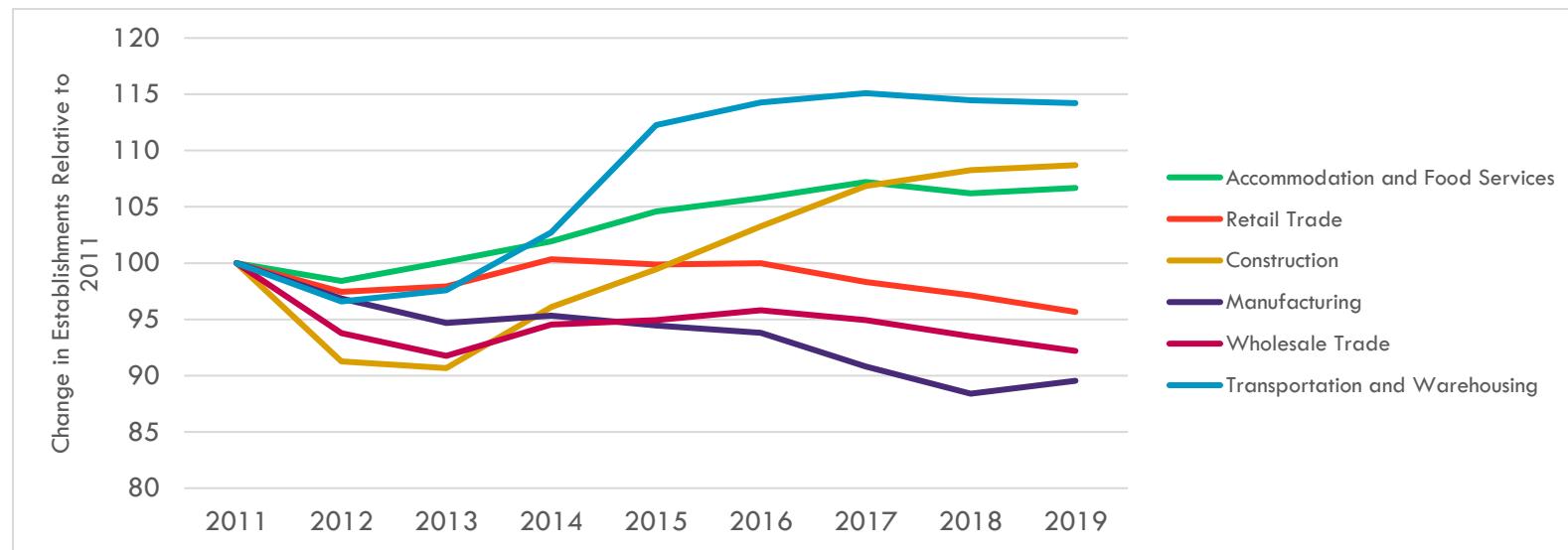
The U.S. Department of Education's report<sup>50</sup> on Adult Workers with Low Measured Skills from 2016 indicates that more than half of U.S. workers without a college degree work in just six sectors: four industrial sectors and two service and retail sectors. These sectors are Construction, Manufacturing, Wholesale Trade, or Transportation & Warehousing (all considered industrial) and Retail Trade and Accommodation & Food Service (retail and service). These six sectors are compared in the charts below.

In line with national trends, the Boston region has exhibited growth in Transportation & Warehousing firms, driven by e-commerce and global logistics firms like Amazon. In many ways, the rise of Transportation & Warehousing correlates with the simultaneous drop in retail trade businesses as more shopping has moved online. Wholesale Trade and Manufacturing businesses have experienced significant decline since 2011, while construction-related businesses grew sharply in the same period. Accommodation & Food Service establishments increased steadily during this time as well.

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<sup>50</sup> Adult Workers with Low Measured Skills: A 2016 Update (2016). U.S. Department of Education Office of Career, Technical and Adult Education. Retrieved from <https://www2.ed.gov/about/offices/list/ovae/pi/AdultEd/factsheets/adultworkerslowmeasuredskills.pdf>

**Figure 1 Change in Business Establishments of Industries with Concentrations of Workers without a College Degree (Indexed to 100; ES-202)**



While manufacturing experiences ongoing decline in the Boston region and nationally, the Boston region maintains a diversity of manufacturing firms, ranging from consumer-facing products like food and furniture to products that support the construction industry, such as metal fabrication and architectural woodworking. It also exhibits a regionally significant cluster of firms that support production of medical devices,<sup>51</sup> pharmaceutical/therapeutics equipment,<sup>52</sup> and aerospace and defense equipment.<sup>53</sup> Further analysis within the manufacturing sector should be undertaken to better understand the sub-industry trends regarding business and employment changes in greater Boston.

### Industrial Employment Composition

Among the six sectors that employ high concentrations of workers without a college degree, the non-industrial sectors – Accommodation & Food Services and Retail Trade – employ more people than industrial sectors, which is not surprising given the greater number of

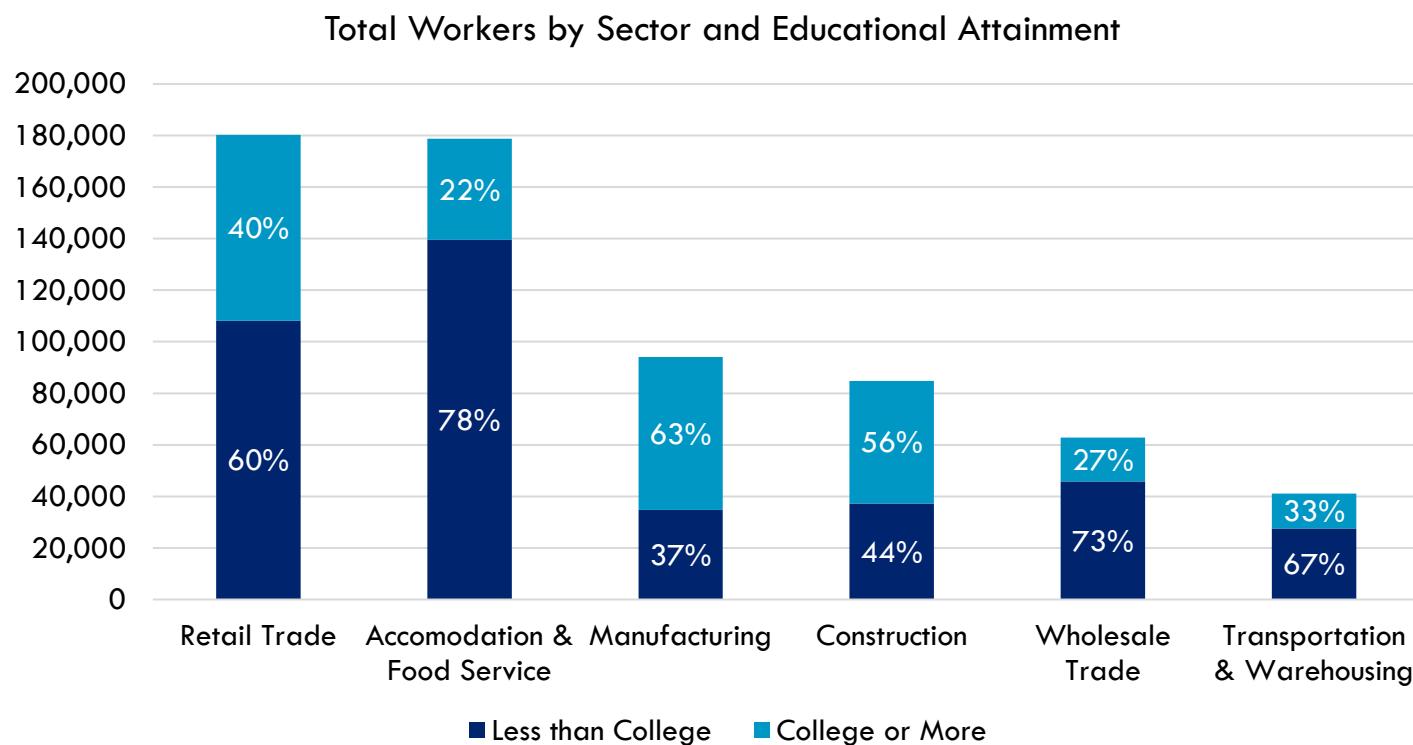
<sup>51</sup> LQ of 1.94, BLS QCEW 2021

<sup>52</sup> LQ of 1.6 BLS QCEW 2021

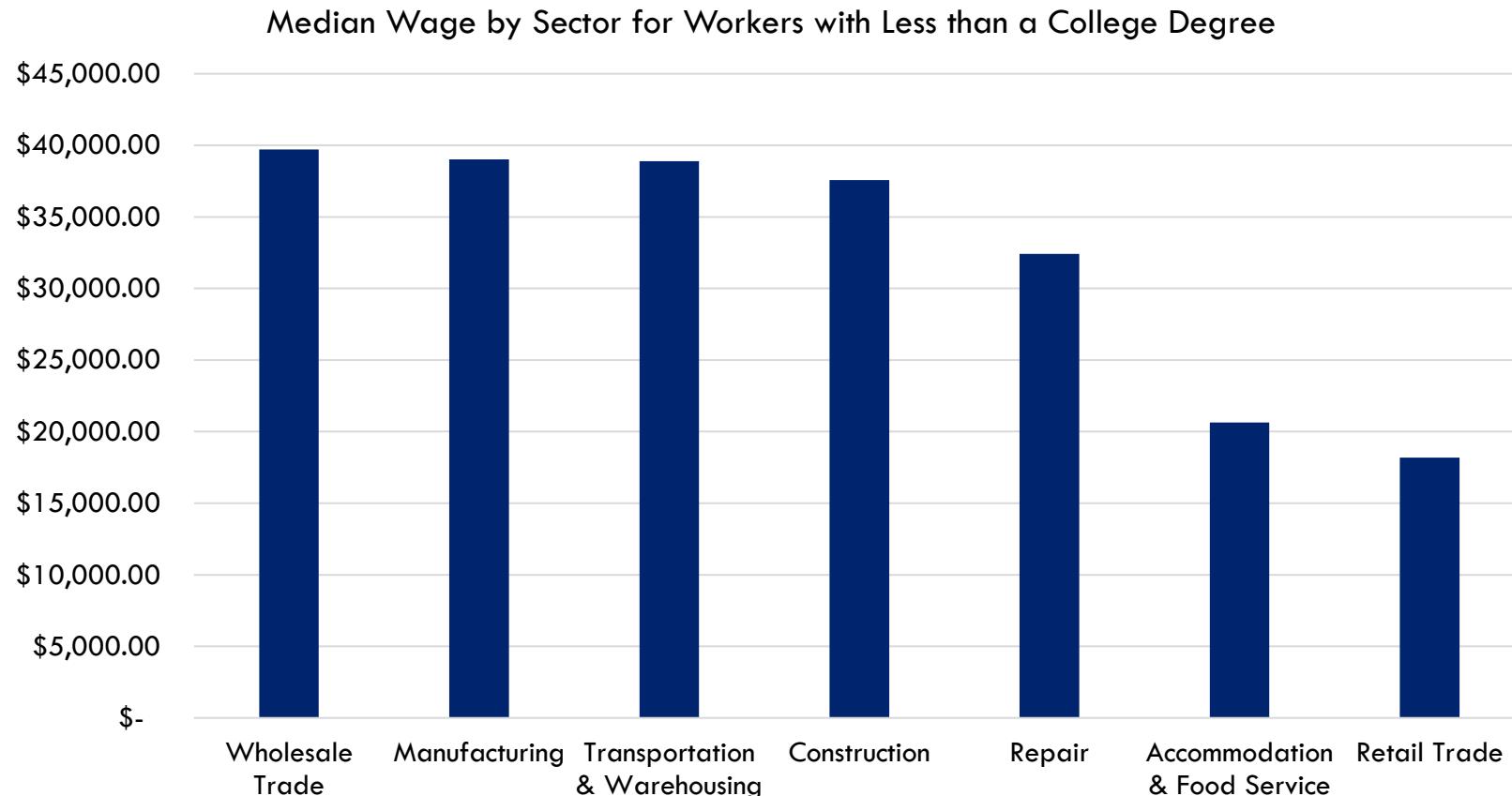
<sup>53</sup> LQ of 1.16 BLS QCEW 2021

non-industrial businesses in the Boston region. However, the median wage among workers without a college degree for industrial sectors is \$12,000 to \$22,000 more than these non-industrial sectors.

**Figure 2 Total Workers by Sector in the MAPC Region, showing the percent in each sector of workers with and without a college degree** (EOLWD Labor and Wages (ES-202), 2019; and ACS PUMS, 2015-2019)



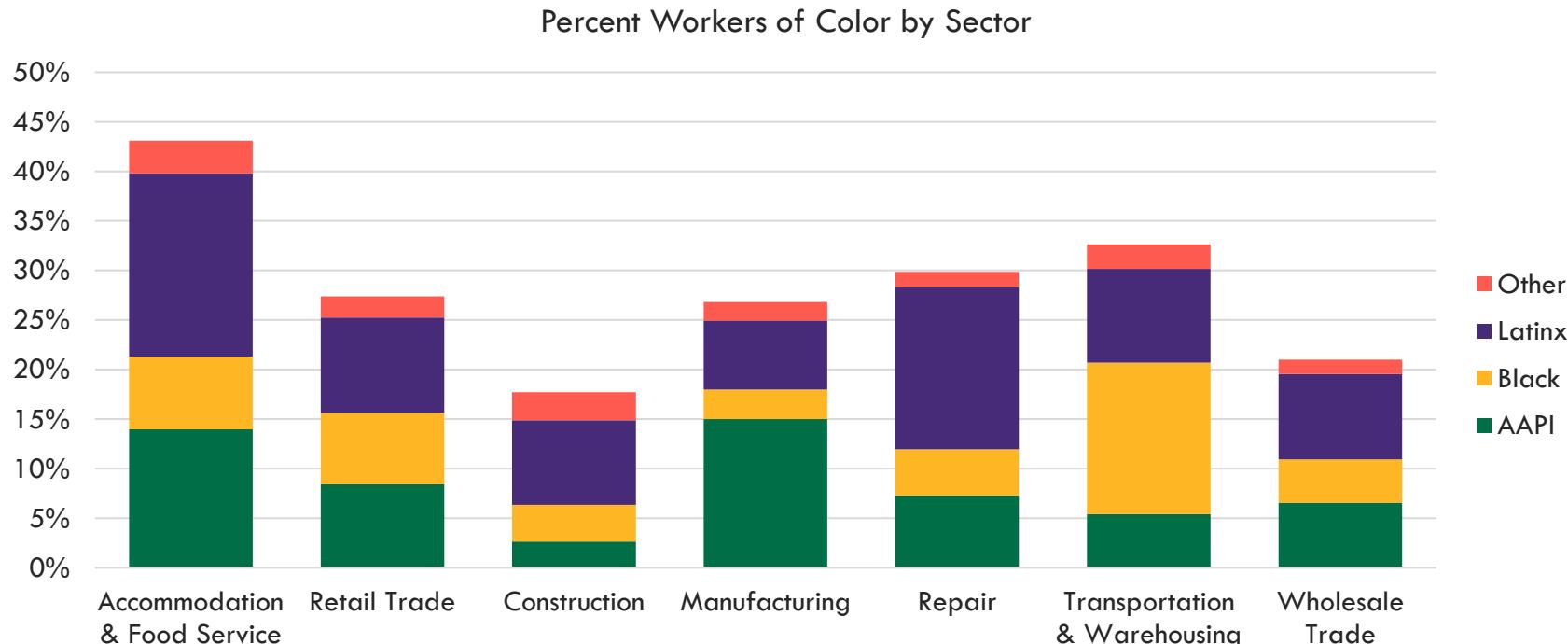
**Figure 3 Median wage by sector in the MAPC region for workers without a college degree (ACS PUMS, 2015-2019)**



In addition to industrial sectors paying higher wages, they also employ a higher proportion of workers of color than other major industries within the Boston metro area (Figure 3). Across the five industrial sectors, an average of 28% of the total workforce is made up of people of color (POC) – several percentage points higher than other major industries in the Boston area such as Professional/Technical services (25% POC workforce) and Educational Services (20% POC workforce).<sup>54</sup>

<sup>54</sup> MAPC Comprehensive Economic Development Strategy (2021). Retrieved from <https://www.mapc.org/wp-content/uploads/2021/02/Final-CEDS-022521.pdf>

**Figure 4 Percent Workers of Color by Sector in the MAPC Region (ACS PUMS, 2015-2019)**



As indicated in Figure 4, racial composition varies between these industries. The Construction industry has a higher percentage of White workers than the other comparable industries, while Manufacturing employs a higher concentration of AAPI workers and Transportation & Warehousing employs a higher percentage of Black workers. The Accommodation & Food Service sector is the most diverse with the largest share of POC workers.

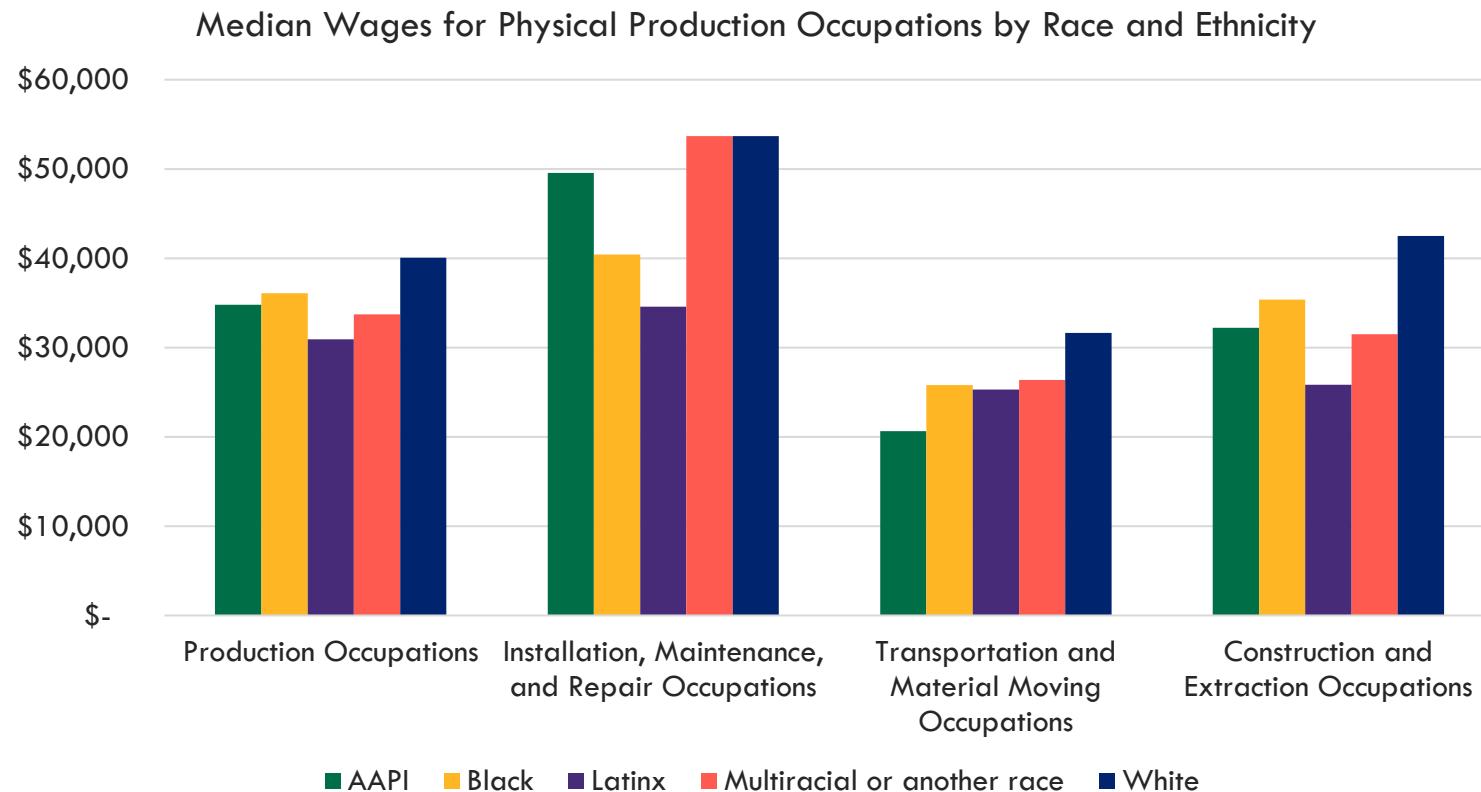
**Figure 5 Median Annual Wage of Industrial Sectors<sup>55</sup> by Race and Ethnicity in the MAPC Region (ACS PUMS, 2015-2019)**



While wages overall are more competitive in industrial sectors than non-industrial sectors, racial wage gaps endure within industrial sector jobs, even among workers without a college degree. White workers without a college degree have median earnings \$5,000 to \$27,000 more per year than workers of color without a college degree in the same industry. However, in alignment with the findings of Grodsky and the Economic Policy Institute, when narrowed to *physical production* occupational activities within these sectors, the racial pay gap tends to shrink, as illustrated in Figure 6.

<sup>55</sup> The Repair sector is excluded from this figure due to a small sample size resulting in large margins of error when cross-classified by race and ethnicity.

**Figure 6 Median Wages for Selected Physical Production Occupations by Race and Ethnicity in the MAPC Region (ACS PUMS, 2015-2019)**



While industrial businesses primarily perform activities defined earlier in this report – production, distribution, and repair – they employ a host of workers with varying skill sets, educational levels, and associated wages. When the high-earning occupations within industrial businesses (sales, management, engineering, etc.) are excluded from the analysis, the wages exhibited by the occupations that are core to the execution of industrial activity – physical production occupations – display a smaller racial wealth gap. While there is some variation within occupational categories, the occupations analyzed in Figure 6 show closer to a \$4,000 to \$19,000 difference in annual wages. Installation, Maintenance, and Repair Occupations demonstrate the largest pay gap, with a \$19,000 pay gap between Latinx workers and White workers or Multiracial or Another Race workers. Transportation and Material Moving Occupations tend to have the lowest median wages, especially among AAPI workers, despite a smaller racial wage gap.

## Key Takeaways

- The industry sectors compared in this analysis employ a greater share of workers of color than other major sectors in the MAPC region. However, wages among Black and Hispanic workers remain lower than those of White workers in each occupational category.
- Among sectors employing high concentrations of workers without a college degree, median wages in industrial sectors pay \$12,000 to \$22,000 more than in non-industrial comparison sectors.
- The racial pay gap within industrial sectors remains wide, even among workers without a college degree.
- This pay gap tends to shrink when looking at physical production activities, yet some sectors, namely Installation, Maintenance, and Repair, continue to exhibit unequal pay.
- Further research is warranted to better understand what's driving the growth and decline of industrial sub-sectors.

## Land Use Analysis

Industrial businesses play a critical role in supporting well-paying and accessible jobs to diverse populations within the region, but the risk of industrial land loss has direct implications for where these businesses can locate. The following section aims to quantify changes in industrial land in the MAPC region over the past 10 years and to provide key indicators of the state of rents and vacancy rates in the industrial market.

## Methodology

This report presents a spatial analysis of the industrial sector from two main data sources – assessors records and CoStar – and explores land parcels and total built real estate products. MAPC used local assessors' records to understand the total availability of land designated for industrial land use. Assessors' records designate industrial land uses in the form of 'use codes' that are set by the Department of Revenue for tax purposes. Based on the classification codebook<sup>56</sup> we selected use codes that belong to the industrial category (code 4) as well as those belonging to additional production, distribution, and repair sectors. A full list of codes and their descriptions that were considered as industrial for spatial analysis are provided in Appendix B (PDR Codes with Descriptions). Due to the complexities associated with acquiring and comparing historical assessor data, a time series analysis was not possible within the scope of this report.

We utilized CoStar,<sup>57</sup> a proprietary data source for property-level data, for various real estate types that define industrial properties as a type of building(s) adapted for a combination of uses such as assemblage, processing, and/or manufacturing products from raw

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<sup>56</sup> Department of Local Services (DLS), MA Dept of Revenue (2016). Property type classification codes, Non-arm's length codes, and Sales report spreadsheet specifications. Retrieved from <https://www.mass.gov/files/documents/2016/08/wr/classificationcodebook.pdf>

<sup>57</sup> CoStar Group: <https://www.costar.com/products/analytics>

materials or fabricated parts. Additional uses include warehousing, distribution, and maintenance facilities. This broadly covers similar PDR-related uses and hence is the basis of spatial analysis to study the change in Industrial Land Use from 2011 to 2021. Sections below provide more detail on the methods used and insights from this data.

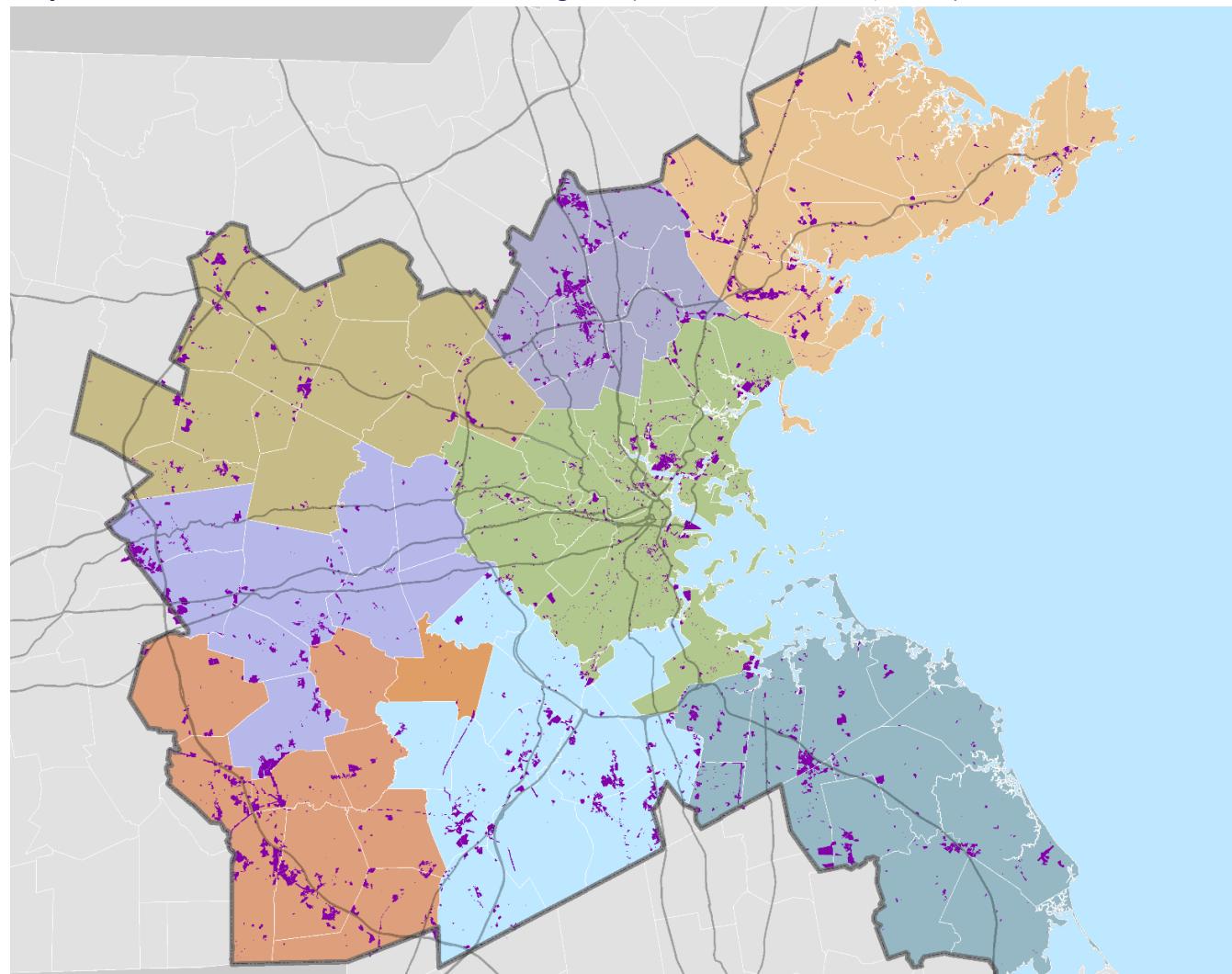
## Assessors Data Analysis

Municipal assessor's records within the MAPC region indicate that there are about 30,600 acres of existing industrial land, accounting for approximately 3.3% of the total developed or potentially developable<sup>58</sup> land in the region. As illustrated in Map 1 and Table 1 below, MAPC subregions with significant industrial land supply include North Suburban Planning Council (NSPC), South West Advisory Planning Committee (SWAP), Three Rivers Interlocal Council (TRIC), and the Inner Core. The NSPC, Inner Core, and TRIC subregions all intersect with I-93, I-95, and other major truck routes like Rt 1 North and South. These transportation corridors are critical to the movement of goods in and out of the core Boston area and therefore present a geographic advantage to industrial businesses. The SWAP region also intersects with I-495 and is proximate to the Mass Pike (I-90), which similarly presents an advantageous location for industrial activity. While The North Shore, MetroWest, and MAGIC regions have less industrial acreage, they all boast concentrations of industrial activity in certain municipalities. The following section analyzes the concentration of industrial land from a community-type perspective to complement this subregional analysis.

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<sup>58</sup> Represents total land area within the MAPC region except area under water bodies, permanently protected land area, and land under roadways.

**Map 1 Industrial Parcels Across MAPC Subregions (Assessor's Database, 2021)**



**Industrial land parcels  
based on assessor's data  
over MAPC subregions**

Major Roads  
MAPC Boundary  
Industrial Parcels

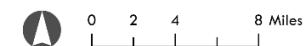
**MAPC Subregions**

INNER CORE  
MAGIC  
METROWEST  
NSPC  
NSTF  
SSC  
SWAP  
TRIC

Produced by:  
Metropolitan Area Planning Council  
60 Temple Place, Boston, MA 02111  
(617) 933-0700

Data Sources: MAPC, Assessors' Parcel Data,  
MassGIS, MassDOT

October 2021



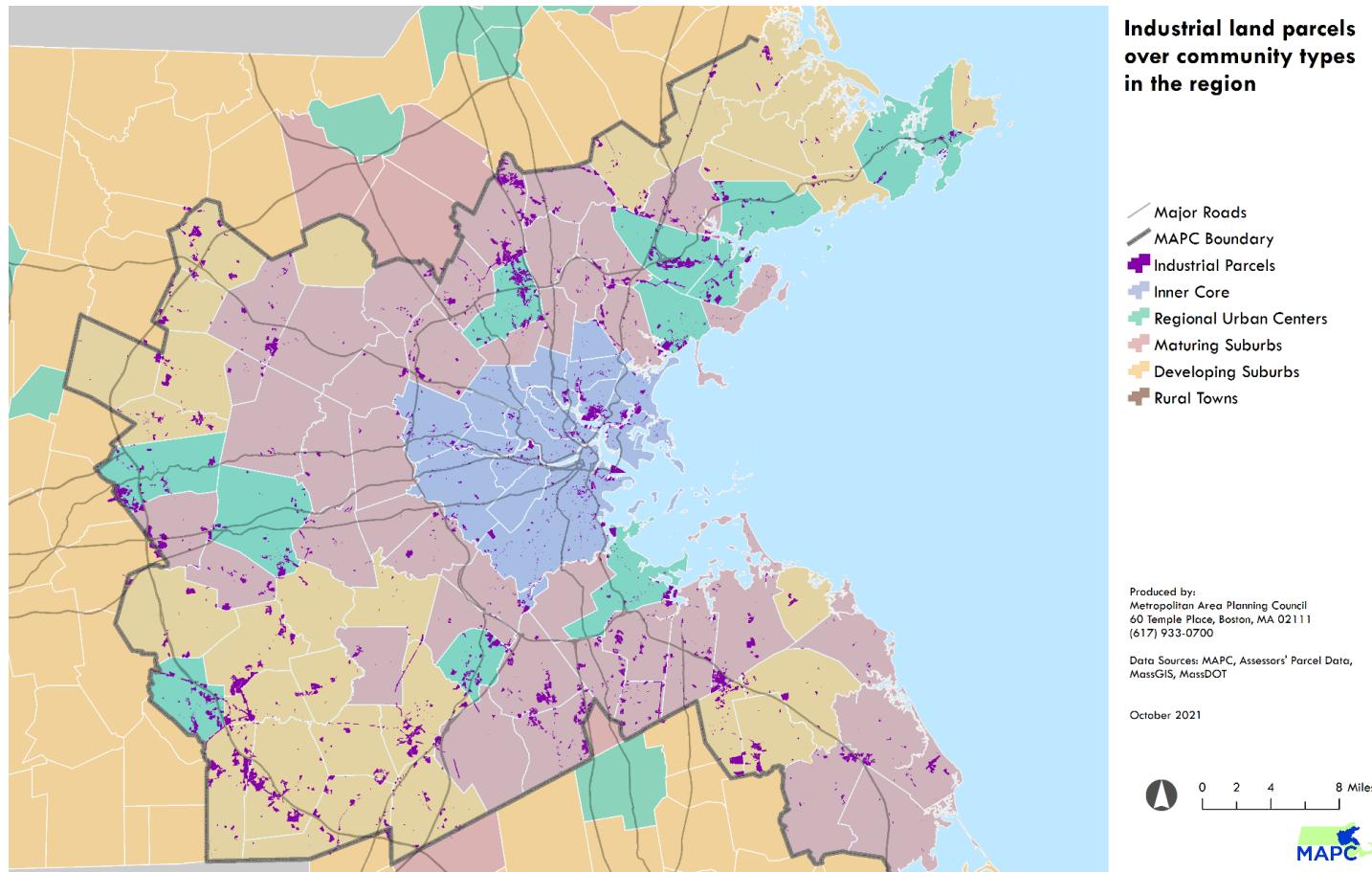
**Table 1 Area Under Industrial Parcels Within MAPC Subregions** (Assessor's Database, 2021)

Subregions	Industrial parcels area (acres)	As a % of region's industrial land area	As a % of total subregional land area
SWAP	4,986	16%	4.7%
Inner Core	4,579	15%	3.4%
TRIC	4,076	13%	3.6%
SSC	3,919	13%	2.8%
NSPC	3,554	12%	5.7%
MetroWest	3,444	11%	3.5%
NSTF	3,347	11%	2.6%
MAGIC	2,701	9%	2.0%

### Industrial Land Use Parcels and Community Types

While evaluating the spatial representation of industrial land across subregions is useful in providing a general landscape of the regional distribution of available land, it doesn't account for the types of communities where this land is located. Understanding the breakdown of industrial land by community type helps explain how and where land-use strategies and decision making might be deployed differently.

**Map 2 Industrial Parcels Across MAPC Community Types (Assessor's Database, 2021)**



**Table 2 Area Under Industrial Parcels Within MAPC Community Types (Assessor's Database, 2021)**

Community Type	Area of industrial parcel (acres)	As a % of region's industrial land area	As a % of community type's total land area
Maturing Suburbs	10,677	35%	3.3%
Developing Suburbs	10,058	33%	4.2%
Regional Urban Centers	6,628	22%	6.0%
Inner Core	3,242	11%	3.4%

As indicated in Map 2, the MAPC region is composed of four major community types.<sup>59</sup> The majority of industrial land in the region is located in Maturing Suburb and Developing Suburb community types. This is unsurprising given that these two community types make up the majority of the land in the MAPC region. However, when comparing the percentage of industrial land to the relative area of community types, the highest concentration of industrial land is located in Regional Urban Centers. Six percent of the total land area in Regional Urban Centers is industrial.

Within the MAPC region, Regional Urban Centers are large, high-density centers of activity not proximate to Boston and include communities such as Woburn, Lynn, Beverly, Framingham, Marlborough, Quincy, Norwood, Franklin, and Gloucester. Regional Urban Centers are generally characterized as urban communities with a mix of housing types, only small amounts of vacant developable land, active redevelopment projects, and slow or stable population growth. Many have experienced a surge in development due to their desirable locations, driven in part by the conversion of industrial land to residential uses.<sup>60</sup>

Many of these Regional Urban Centers are also Gateway Cities,<sup>61</sup> and as identified in the literature review, the presence of industrial job opportunities in these communities plays a critical role in supporting economic vitality, particularly for communities without access to higher education or with non-English speakers. If industrial jobs are lost in these areas due to the conversion of land, they will not likely be replaced by similarly accessible high-quality jobs, which could have a significant impact on the economic health and wellbeing of these areas. Further analysis of the industrial composition of each of these communities and their role in the regional economy will be needed to fully understand the implications and should be undertaken as a follow-up to this research.

The second-highest concentration of industrial land uses is found in Developing Suburbs. Developing Suburbs account for nearly a third of MAPC's total area and are found in every subregion. Developing Suburbs are traditionally low-density communities that have begun to experience accelerated growth resulting from Boston's strong economy and real estate market. While the industrial districts in Developing Suburbs may not directly employ many individuals from the communities themselves, they frequently act as job centers for employees traveling from nearby Gateway Cities. An example of this kind of commute/employment pattern is the Cherry Hill industrial park located in Beverly, where almost one third of employees commute to the park from Lynn, Lawrence, and Lowell.<sup>62</sup> A more complete analysis of worker inflow and outflow in Developing Suburbs will be needed to fully understand employment needs in these areas and should be conducted as a follow-up to this research.

### Case Study: Cherry Hill Office Park

MAPC, along with the North Shore Workforce Investment Board and North Shore Alliance, amongst other partners, conducted a study of the Cherry Hill Industrial Park in Beverly and Danvers, Mass. This study was prompted by significant employers in the park citing

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<sup>59</sup> See Appendix C for a complete description of MAPC's community types.

<sup>60</sup> Massachusetts Community Types, MAPC (2008). Retrieved from [http://www.mapc.org/wp-content/uploads/2017/09/Massachusetts-Community-Types-Summary-July\\_2008.pdf](http://www.mapc.org/wp-content/uploads/2017/09/Massachusetts-Community-Types-Summary-July_2008.pdf)

<sup>61</sup> A legislative designation given to 26 midsize urban centers that anchor regional economies around the state. More info on Gateway Cities can be found via MassINC: [About the Gateway Cities - MassINC](#)

<sup>62</sup> US Census, LEHD, 2018

challenges to accessing talent, particularly for production and assembly focused jobs. In collaboration with the Northeast Regional Labor Market Blueprint<sup>63</sup> Coalition partner organizations, MAPC explored the connections between workforce development, transportation networks, and housing in the region in 2021. Through a series of activities ranging from priority industry heatmapping to regional workshops, the partnership built a knowledge base intersecting these three socioeconomic levers and has committed to finding ways to engage them. MAPC and the Northeast Regional Labor Market Blueprint stakeholders explored if and how transportation and housing barriers are impacting the supply of labor that employers in the Cherry Hill Industrial Park can access. Issues noted at Cherry Hill Industrial Park included hiring challenges in the manufacturing sector due to transportation, housing constraints, and childcare accessibility.

With more than 80 businesses and 3,000 employees, the Cherry Hill Industrial Park is one of the North Shore's critical employment centers. The firms concentrated in the park are clustered in medical device manufacturing, biotech R&D, and engineering industries – making it a production-heavy area with a significant number of manufacturing jobs. Businesses in the Cherry Hill Park fared the pandemic well, with only a slight uptick in vacancy from 3.6% to 4.4% and robust demand for jobs at a variety of educational and wage levels.

The majority of Cherry Hill workers commute from regional Gateway Cities including Peabody, Lawrence, Lowell, Salem, and Beverly, along with Lynn, from which 20% of workers commute. The Park is inaccessible via public transit, requiring all commuters to travel by personal vehicle; this is a potential barrier to many residents of the region who rely on public transportation.

The high cost of housing in the region and the lack of rental housing in many nearby communities also pose a challenge for Cherry Hill workers who want to live within reasonable commuting distance. Although the wages in Cherry Hill Park are relatively high – most paying at least \$18 an hour – the median cost of a two-bedroom apartment is about \$2,140, which is unaffordable for nearly half of the workers employed in the Park.

Furthermore, the analysis presented by the Northeast Regional Labor Market Blueprint Coalition indicates a significant gap in regional childcare availability. Data from Childcare Aware America shows that the communities supplying the majority of labor to Cherry Hill Park are the most in need of additional childcare seats and services. Stakeholder interviews with human resource directors for Cherry Hill businesses confirmed this need as a critical barrier to employment in the region.

Equipped with this data, the Northeast Regional Labor Market Blueprint Coalition can play a leadership role in coordinating appropriate partners to address some of these identified barriers, and in doing so, improve transportation and housing access in the region.

Specific recommendations from this work include:

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<sup>63</sup> Greater Lowell Workforce Development Board, North Shore Workforce Investment Board, and Merrimack Valley Workforce Investment Board (2018). Northeast Labor Market Blueprint. Retrieved from <https://masshire-northshorewb.com/wp-content/uploads/Northeast-Regional-Labor-Market-Blueprint-FINAL.pdf>

- Establishing a direct shuttle or vanpool from the communities of Lynn, Peabody, and Lawrence to the Cherry Hill Industrial Park.
- Explore Micro Transit options that better connect Cherry Hill Industrial Park with local destinations like Beverly Depot and nearby shopping, services, and residential areas.
- Participate in zoning processes related to the new Multi-Family Zoning Requirement for MBTA Communities.
- Conduct an on-site childcare feasibility study for Cherry Hill Industrial Park.

## Key Takeaways

- As of 2020, the MAPC region has approximately 30,600 acres of industrial land. This benchmark should be used to measure future changes. Regional Urban Centers are the community type with the highest concentration of industrial land, yet may be at risk of converting that land to non-industrial use due to real estate market pressures and changing community demographics.
- Developing Suburbs have the second-highest concentration of industrial land and may be unaware of the role their communities play in supporting well-paying jobs for nearby Gateway City residents. Understanding where workers live and transportation to industrial businesses from those locations will be critical to supporting this workforce.
- Further research is needed to quantify and understand the land within the region that is used for industrial purposes but is not zoned for it, which could potentially yield parcels at high risk of conversion to other uses. Further research is also needed regarding land that is zoned for industrial but is not being used for industrial purposes.
- Further analysis of the industrial sector composition and trends in Regional Urban Centers and inflow/outflow of workers in Developing Suburbs should be undertaken to better understand these activities.

## Real Estate Analysis

To accompany the above current snapshot of total industrial land in the region, CoStar Analytics was used to illustrate longitudinal market trends, including shifts in industrial inventory, rents, and vacancy rates from 2011 to 2021.

## Methodology

The limitation of assessors' records is that there is no compilation of historical data regarding industrial land use, so it is impossible to use this data source to evaluate longitudinal trends at this time. To supplement assessors' records, MAPC used CoStar (a licensed real estate market analysis product that captures a range of commercial real estate indicators on an ongoing basis) to evaluate how industrial inventory, rents, and vacancy have changed over the last decade. The major difference between CoStar and assessor's data is that CoStar provides information on *built* space as opposed to the full parcel area. This means that the CoStar data only shows the portion of an industrial parcel that has a building that could be used, and not the sum area of a parcel. Many industrial parcels accommodate uses like parking and storage, so the assessor's data indicates a better inventory of total industrial space than the CoStar

data. While this inconsistency does exist, it does not necessarily discount either analysis, as they both aim to answer different questions. Findings from CoStar data help fill out the initial snapshot gained by the assessor's data.

As noted earlier, CoStar defines industrial properties as “a type of building(s) adapted for a combination of uses such as assemblage, processing, and/or manufacturing products from raw materials or fabricated parts. Additional uses include warehousing, distribution, and maintenance facilities.”<sup>64</sup> This broadly covers similar PDR-related uses and hence is the basis of spatial analysis to study the change in Industrial Land Use from 2011 to 2021.

CoStar's primary industrial market database is broken into a series of ‘submarkets,’ which are small and have recognizable nomenclature for the real estate and business communities. The submarket geographies were cross walked to correspond to zip codes, which were then aggregated into geographic levels specific to the MAPC region, including sub-regions,<sup>65</sup> community types,<sup>66</sup> and individual municipalities. Three key indicators were assessed at each of these geographic levels: total building inventory in square feet; rent; and vacancy rates. In instances where zip code and sub-market geographies did not align, a percentage threshold was used to assign all of that submarket's inventory to a particular zip code (>50%).

CoStar was also used to evaluate historic assessors' data to illustrate the advantages non-industrial real estate products have over industrial ones. This data is critical in supporting the finding that once an industrial property is converted to a non-industrial use it will rarely return to an industrial use because the market finds higher value in non-industrial real estate.<sup>67</sup>

## Industrial Inventory Trends

Using CoStar's longitudinal data resource, an analysis of total industrial built space in the MAPC region between 2011 and 2021 indicates a net loss of 10.9 million square feet (sq. ft.) of built space, which equates to a loss of 3.5% of the region's total industrial inventory. As reflected in Table 3 below, five of the region's eight subregions lost industrial space, while two gained space or remained unchanged. Nearly 75% of industrial space loss occurred in the Inner Core subregion, which experiences the highest land values in the region. The loss of space in the Inner Core is consistent with findings from the literature review that identify high-demand market areas as being the most likely to convert industrial space to other uses, primarily housing, due to the high rent and sales prices in these markets that make it more profitable to convert to residential uses. While there was an overall net loss in the region, new industrial spaces were created in SWAP and NSTF, demonstrating the need to plan for continuing and changing demand, even as industrial space declines.

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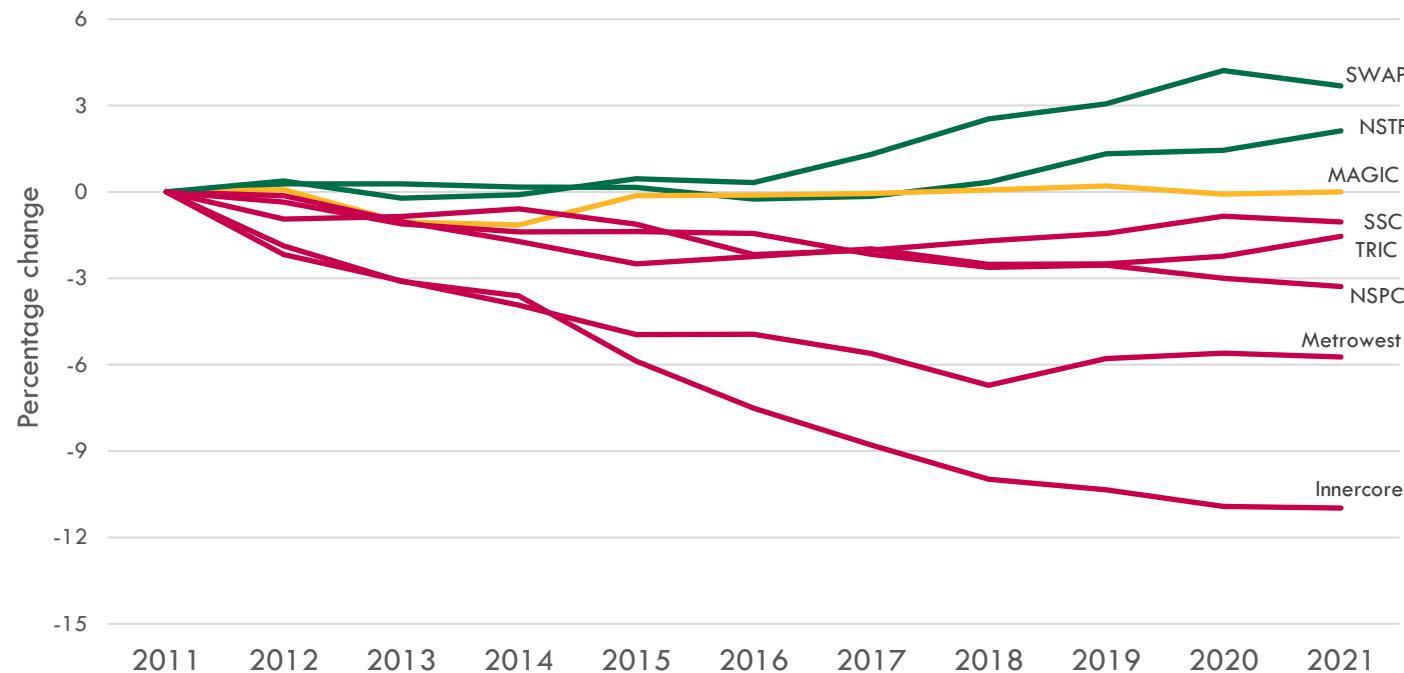
<sup>64</sup> CoStar Glossary. Retrieved from <https://www.costar.com/about/costar-glossary>

<sup>65</sup> More information on MAPC subregions can be found at <https://www.mapc.org/get-involved/subregions/>

<sup>66</sup> More information on MAPC community types can be found at [https://www.mapc.org/wp-content/uploads/2017/09/Massachusetts-Community-Types-Summary-July\\_2008.pdf](https://www.mapc.org/wp-content/uploads/2017/09/Massachusetts-Community-Types-Summary-July_2008.pdf)

<sup>67</sup> Magdaleno, J. and Wellington, L. 2018. An Urban Revival: How Land Use Tools and Real Estate Strategies are Fueling the Resurgence of Light Manufacturing in Greater Boston. *Urban Manufacturing Alliance*. Retrieved from [https://www.urbanmfg.org/wp-content/uploads/2018/01/UrbanManufacturingAlliance\\_MassDevelopmentReport.pdf](https://www.urbanmfg.org/wp-content/uploads/2018/01/UrbanManufacturingAlliance_MassDevelopmentReport.pdf).

**Figure 7 Percentage Change in Built Industrial Space Within MAPC Subregions, 2011 to 2021** (Costar and MAPC Analysis)



**Table 3 Change in Built Industrial Space Within MAPC Subregions, 2011-2021** (Costar and MAPC Analysis)

Subregion	Total Industrial Built Space Inventory in 2021 (sq. ft.)	% Change from 2011	Change in sq. ft.
SWAP	17,037,639	3.7%	604,936
NSTF	35,923,936	2.1%	746,605
MAGIC	29,389,715	0.0%	-
SSC	45,051,860	-1.0%	-473,025
TRIC	36,628,069	-1.5%	-573,528
NSPC	70,101,023	-3.3%	-2,381,417
METROWEST	15,273,849	-5.7%	-928,383
INNER CORE	63,936,378	-11.0%	-7,885,189
<b>TOTAL</b>	<b>313,342,469</b>	<b>-3.5%</b>	<b>-10,890,001</b>

To a lesser yet still significant degree, the Metro West and North Suburban Planning Council (NSPC) subregions have also seen large losses of industrial real estate. Research<sup>68</sup> shows these communities are also areas that have experienced increases in housing prices due to their proximity to Boston and access to commuter rail transportation.

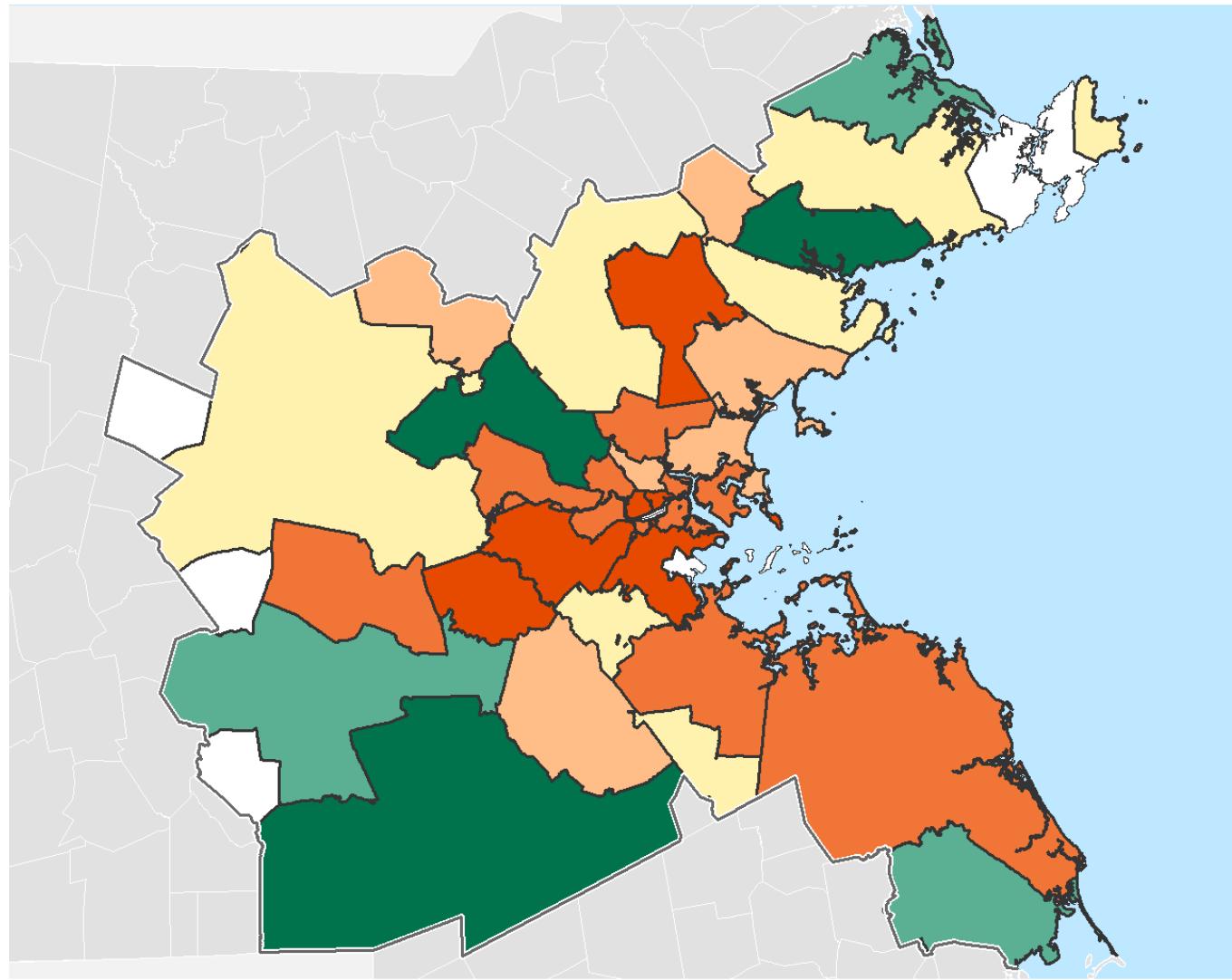
Conversely, an increase in industrial real estate appears in some of the outer subregional areas where land values are lower – specifically the South West Advisory Planning Committee (SWAP) and North Shore Task Force (NSTF) subregions. Research by MAPC indicates that the SWAP region has been targeted by major e-commerce firms like Amazon and its contractors as prime locations for logistics and fulfillment centers due to quick access to I-495 and RT 1<sup>69</sup>. Growth in the NSTF region stems from the development of several new industrial business parks in Middleton, Beverly, and Danvers.

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<sup>68</sup> Chapter 3: Housing Market, Greater Boston Housing Report Card (2021). *The Boston Foundation*. Retrieved from <https://www.tbf.org/news-and-insights/reports/2021/jun/greater-boston-housing-report-card-2021/gbhrcc2021-chapter-3>

<sup>69</sup> Felix, A. and Pollack, T. (2021). Hidden and in Plain Sight: Impacts of E-Commerce in Massachusetts. *Metropolitan Area Planning Council MetroCommon 2050*. Retrieved from <https://www.mapc.org/wp-content/uploads/2021/02/Feb2021-Ecommerce-Report.pdf>

Map 3 Change in Built Industrial Space in the MAPC Region, 2011-2020, by CoStar Submarket



## Percent Change in Industrial Space 2011 to 2020

By CoStar Submarket

### Built Industrial Space

Percent change 2011 to 2020

5% to 11%

2% to 4%

-1% to 1%

-5% to -2%

-15% to -6%

-32% to -16%

Data unavailable

MAPC Boundary

The information depicted on this map is for planning purposes only. It is not adequate for legal boundary definition, regulatory interpretation, or parcel-level analyses.

Produced by:  
Metropolitan Area Planning Council  
60 Temple Place, Boston, MA 02111  
(617) 933-0700

Data Sources: MAPC, MassGIS, CoStar

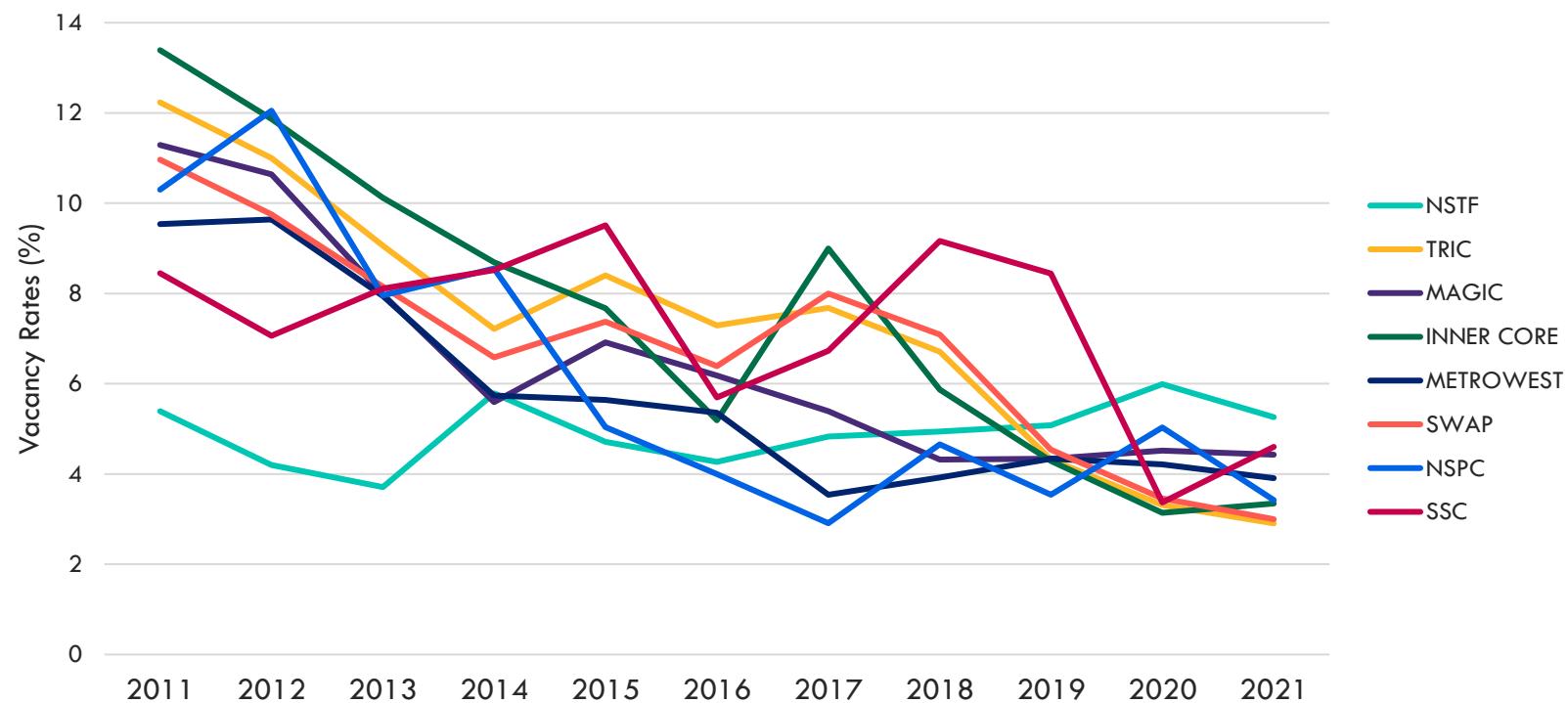
January 2023

0 2.25 4.5 9 Miles



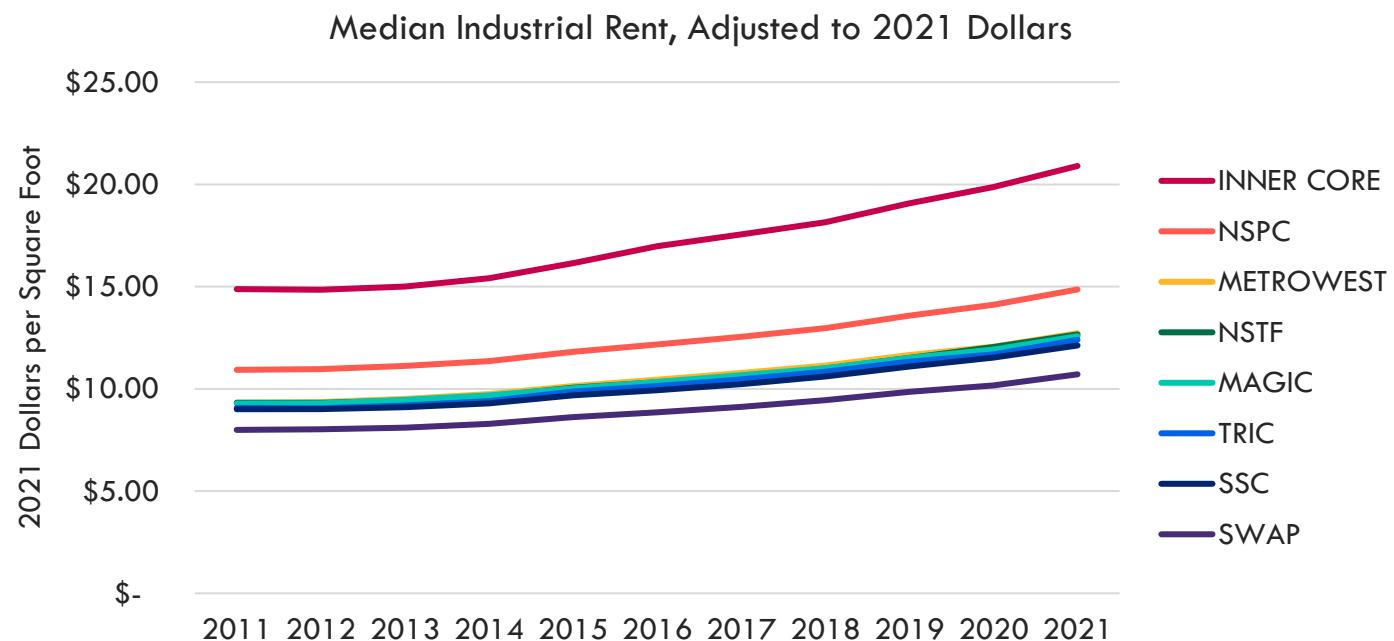
As industrial space has been declining in the MAPC region, there has also been a decrease in vacancy rates from a regional rate of 11% in 2011 to 4.4% in 2021. The decline in median vacancy rate for each MAPC Subregion is shown in Figure 8. This shows that while the total amount of industrial space has declined, the utilization of that space has increased. For example, in the Inner Core, the 11% decline in industrial space was offset by a 10 percentage point decrease in the vacancy rate, from 13% to 3%. As a result, the actual amount of utilized space has not changed dramatically. The other subregions with declining square footage also saw declines in vacancy rates sufficient to completely or partially offset the decline in area.

**Figure 8 Built Industrial Space, Change in Median Vacancy Rate by MAPC Subregion, 2011 to 2021**



Despite the cushion that the vacant space provided, industrial rents in the region grew 36%, adjusted to 2021 dollars, and within each subregion by 34 to 41%. Unsurprisingly, the highest median rent and the highest rent increase are in the most constrained real estate market, the Inner Core, where median rent was \$21 per sq. ft. in 2021, reflecting an increase of nearly 41% since 2011.<sup>70</sup> Now, regional vacancy rates are 5% or less in every subregion, and there's not much more cushion that vacancies can provide if demand increases or supply continues to be lost faster than new industrial properties come online. This could continue to push rents higher at a dramatic rate. As industrial market rents are pushed up, many businesses, particularly smaller firms without a corporate support system, may simply be priced out of these areas, fueling the loss of accessible and well-paying jobs in these areas.

**Figure 8 Change in Industrial Land Rents Within MAPC Subregions, 2011-2021 (median)**



<sup>70</sup> See Appendix F for breakdown of subregional rents.

**Table 4 Median Industrial Rents and Percent Change from 2011 to 2021 (adjusted to 2021 dollars), by MAPC Subregion (Costar and MAPC Analysis)**

Subregion	2021 Median Rent (\$/sq. ft.)	Median Rent % Increase 2011 to 2021
INNER CORE	\$20.90	41%
NSPC	\$14.86	36%
METROWEST	\$12.72	37%
NSTF	\$12.66	36%
MAGIC	\$12.57	36%
TRIC	\$12.39	37%
SSC	\$12.12	35%
SWAP	\$10.71	34%

If the supply of industrial space in the Inner Core becomes increasingly constrained and expensive, some firms less able or willing to pay for an Inner Core location will be forced to move to a suburban submarket or even farther afield, where the land costs are lower. This scenario would have rippling regional transportation and housing impacts. High operational costs cause challenges for industrial employers to hire and retain workers, and the mismatch between job centers and access to public transit and affordable housing leads to more long-distance, single occupancy car commutes, worsening traffic conditions and creating harmful environmental impacts.<sup>71</sup> The equity implications are equally concerning as shown in the industrial business and occupational analysis (section 3) of this report; industrial jobs loss can disproportionately impact workers of color, thereby exacerbating racial and economic segregation<sup>72</sup> in the region due to lack of access to better paying jobs. Increased housing prices and the loss of access to well-paying jobs are two sides of the same coin that ultimately can lead to resident displacement in strong real estate markets. Additional research regarding the conversion of industrial space to housing and other uses should be conducted to fully understand the relationship between these two critical issues in the MAPC region.

71 Doyle, J. (2009). Large-Scale Transport Planning and Environmental Impacts: Lessons from the European Union. *Journal of Community and Regional Planning*. 130-151. Retrieved from <https://repositories.lib.utexas.edu/bitstream/handle/2152/30369/planningforumv13-14.pdf?sequence=2#page=66>

72 Lens, M.C. & Monkkonen, P. (2015). Do Strict Land Use Regulations Make Metropolitan Areas More Segregated by Income? *Journal of the American Planning Association*. 6-21. Retrieved from <https://www.tandfonline.com/doi/abs/10.1080/01944363.2015.1111163>

## Key Takeaways

- The region has experienced a net loss of approximately 10.9 million sq. ft. of industrial space, or 3.5% of total available space, since 2011. The majority of that loss occurred within the Inner Core subregion.
- Some outlying suburban areas experienced modest expansion of industrial space, particularly in the SWAP and NSTF subregions. Further research should look into what has driven this expansion and to understand whether particular subsectors, such as demand for logistics space to serve e-commerce businesses, have driven this growth.
- Industrial rents increased by 36% (adjusted for inflation) overall while vacancies fell to historic lows. Excess vacant industrial space at the beginning of the study period provided a cushion for demand, even as total industrial land area decreased. Now that vacancies are at very low levels, there is relatively little space for new demand to come online, and competition for the existing spaces may become more intense if demand increases.

## Conclusion and Recommendations

### Conclusion

This report was conducted to establish a baseline understanding of the industrial sector in the MAPC region. Through research and analysis of industrial land use trends, we sought to better understand the potential role of industrial occupations in providing well-paying jobs to workers without access to a college degree or English language proficiency and the potential these jobs can offer for closing wage gaps. This report is the only such research done in the region since 2002 that provides an overview of the regional industrial sector. It supports existing literature that links industrial sector employment to inclusive economic development for communities of color. The study should be used as a foundation for additional research that can support local and state decision making regarding land use and economic development and contribute to the creation and retention of family-sustaining jobs.

As outlined in the “key takeaways” summaries of the Literature Review and elsewhere in this report, the ongoing conversion of industrial land for purposes of “highest and best” value continues to erode the stock of available industrial space in the MAPC region. This is exhibited by the 3.5% loss of industrial space since 2011 and high rental costs with corresponding low vacancy rates, particularly in Inner Core communities where land values are highest. Industrial land consolidation, driven by increased demand for large warehouse and distribution operators, has compounded the overall loss of industrial inventory and prices out small operators and other types of industrial businesses within Manufacturing, Construction, and Wholesale & Repair sectors. These businesses are pushed to peripheral areas of the region that are further from needed labor pools and transportation networks.

The industrial sector provides critical value to the regional workforce by offering well-paying and accessible jobs. The median wages in industrial sectors pay \$12,000 to \$22,000 more for workers without a college degree than in comparison sectors, and the racial pay gap for physical production activities within the industrial sector is smaller than racial pay gaps in other positions. These findings are important within the context of existing research that suggests that the accelerated decline of manufacturing sectors can intensify

residential gentrification in urban areas due to the loss of relatively higher-paying positions for individuals without access to higher education. In the absence of these jobs, workers often must undertake retraining or additional education or shift to lower paying positions with fewer benefits. Alongside integration of new technologies, U.S. manufacturing can begin to offset its workforce shortage by recruiting people of color, particularly those without a college education or those who may not meet traditional English language requirements, into entry-level production positions and creating pathways for upward mobility to management and ownership.<sup>73</sup>

These findings should be used by local, regional, and state-level actors to inform decision making and future research related to land use, transportation, economic development, housing, and workforce development planning. It will be important to continue to expand the breadth of knowledge and interest in the topic of industrial land use and business development through ongoing research, collaboration, and dialogue.

The following set of recommendations can be viewed as a starting point for local and regional actors to begin to engage in the issue of industrial displacement and its effects on economic development.

### **Recommendations for Municipal Stakeholders: Planners, Planning Boards, Economic Development Committees, & more**

1. Integrate industrial land use and planning to master plan and economic development planning processes. Establish a baseline inventory of the local stock of industrial land and the businesses that occupy that space. Identify the competitiveness of local and regional industries and what support these businesses require to maintain their presence. Identify locally significant industrial areas and those that are more suitable for conversion to residential or other uses.
2. Utilize land-use tools, including zoning and permitting, to combat real estate pressures on industrial land. Limit non-industrial uses like housing, big-box retail, and self-storage in core industrial areas to maintain affordable real estate. Specific artisanal or light manufacturing district zoning can be utilized in more flexible areas where a confluence of arts, production, repair, and retail are desired.<sup>74</sup> Ensure emerging industries are defined in the zoning use table; research their needs so that requirements can be set appropriately and predictably.
3. Create incentives for the development of light industrial space in mixed-use developments. Examples of such uses can include Food Production uses like butchers (limited meat processing permitted on-site), confectionery manufacturing, breweries, and wine & liquor wholesalers, as well as Arts & Crafts Manufacturing uses such as commercial screen printing, pottery product manufacturing, and ornamental & architectural metalwork manufacturing that produce smaller products based on hazard mitigation standards and soundproofing. Another example of light industrial space use is Research & Development in the hard

<sup>73</sup> Stettner, A. & Williams, R. C. (2021) Industry and Inclusion: A Blueprint for Action. The Century Foundation. Retrieved from 12/20/22 at <https://tcf.org/content/report/industry-inclusion-blueprint-action/>

<sup>74</sup> See Somerville FAB Zoning District example at <https://3pb8cv933tuz26rfz3u13x17-wpengine.netdna-ssl.com/wp-content/uploads/sites/2/2019/12/20191212-Adopted-SomervilleZoningOrdinance.pdf>

sciences that does not use hazardous materials. As many light manufacturing and repair industries become ‘cleaner’ and ‘quieter,’ zoning reforms that allow such industrial use in high-density, mixed-use parcels could be a mechanism to bring more industrial space online in high value real estate markets. Further research regarding the market viability of such development will be required to implement this concept. Further research is also needed to study impacts of such developments, especially on residential gentrification and the housing development types that such integrations might spur. See Appendix A for examples of light industrial space use in U.S. cities.

4. Consider transportation needs when planning and permitting industrial spaces. Encourage site design conducive to ridehailing, shuttle, bicycle, or transit travel, to the extent possible. Require the creation of a transportation management area (TMA) for major sites and set performance standards for trip production and mode share.
5. Require the highest levels of energy efficiency and renewable energy production for new construction. Consider district energy for new or expanding industrial sites. Establish policies and programs to promote environmental retrofitting through removal of pavement, stormwater treatment and infiltration, tree planting, flood attenuation, and other green infrastructure strategies.
6. Explore opportunities to implement Transfer of Development Rights (TDR) zoning when considering land-use changes to industrial real estate as a mechanism to direct development away from functioning industrial districts.
7. Offer Citizen Planner Training Collaborative (CPTC)<sup>75</sup> training for municipal staff in communities with regionally strategic industrial sites to leverage industrial business trends and real estate dynamics, helping them make effective decisions about their community’s current and future land use.

### **Recommendations for Regional Efforts: Regional Planning Agencies, Workforce Investment Boards, Metropolitan Planning Organizations, Regional and State Economic Development Agencies, & more**

1. MAPC should establish a cohort of regional actors to engage in a regional planning process similar to London’s Industrial Land Supply Inventory (described in the Literature Review of this report). This process would establish industrial sites as regionally strategic, locally important, or not a priority, designated as such within a regional planning context. This process should follow the example of the state’s ongoing efforts to designate Priority Development Areas.
2. Connect transportation, zoning, and strategic planning efforts with workforce development activities occurring through the Workforce Skills Cabinet Regional Workforce Blueprint Planning processes. Require updates to the Workforce Blueprints to

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<sup>75</sup> Learn more at <https://masscptc.org/>

account for the shifts in industrial land use and establish processes for workforce development stakeholders to engage in land use and transportation planning discussions relating to job access.

3. Establish a regional economic development coalition focused on retaining and growing the industrial base to bolster well-paying and accessible jobs in the region.

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# Appendices

## Appendix A – Examples of Light Industrial Space Use in U.S. Cities<sup>76</sup>

**New York** - The experience of New York City during the last 10 to 15 years is a great example from which other cities can learn. While the huge, traditional manufacturing users of yesterday have left New York City, in some cases they have been replaced by smaller, more flexible entrepreneurial manufacturers who are creating jobs and generating tax revenues. These locations have attracted light producers, such as ice cream and chocolate makers, bespoke cabinetry makers, and craft breweries. If municipal rules and zoning allow it, these types of new manufacturers will set up shop in other cities as well.

**Miami** - Local governments can embrace form-based zoning, such as the new Miami 21<sup>77</sup> code, as an approach to integrate new manufacturing with other land uses. This approach to zoning focuses less on restricting where specific property types may go and focuses more on the interaction between streets and buildings, public and private open spaces, and mixed-use districts to create a unified environment. Instead of the typical strategy of separating uses, Miami 21 divides manufacturing into two categories: light industrial and heavy industrial. Light industrial uses, which constitute the majority of new manufacturing, are often allowed to coexist alongside commercial, office, and residential uses that benefit from their vicinity. Within the light industrial zone, only operations that entail the manufacturing, processing, generation, or storage of products that pose a physical or health threat are forbidden. The advantages of the form-based approach are becoming increasingly apparent in Miami's Wynwood district. Wynwood, like neighborhoods of New York City, is experiencing revival as new uses emerge, such as retail, restaurants, bars, residential spaces, art studios/galleries, and new manufacturing.

**Massachusetts** – see the Urban Manufacturing Alliance 2018 report, “An Urban Revival: How Land Use Tools and Real Estate Strategies are Fueling the Resurgence of Light Manufacturing in Greater Boston”<sup>78</sup> for examples of light manufacturing land use strategies in Boston, Chelsea, Fitchburg, Lawrence, Lowell, Malden, and Somerville.

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<sup>76</sup> Integrating “New Manufacturing” Into U.S. Cities, NAIOP (2014), accessed at: <https://www.naiop.org/en/Research-and-Publications/Magazine/2014/Summer-2014/Business-Trends/Integrating-New-Manufacturing-Into-US-Cities>

<sup>77</sup> To learn more about the Miami 21 Zoning Code, go to [http://www.miami21.org/zoning\\_code.asp](http://www.miami21.org/zoning_code.asp)

<sup>78</sup> Magdaleno, J. and Wellington, L. 2018. An Urban Revival: How Land Use Tools and Real Estate Strategies are Fueling the Resurgence of Light Manufacturing in Greater Boston. Urban Manufacturing Alliance. Retrieved from [https://www.urbanmfg.org/wp-content/uploads/2018/01/UrbanManufacturingAlliance\\_MassDevelopmentReport.pdf](https://www.urbanmfg.org/wp-content/uploads/2018/01/UrbanManufacturingAlliance_MassDevelopmentReport.pdf).

## Appendix B – PDR Codes with Descriptions

List of use codes for production, distribution, and repair sectors considered for this analysis to identify industrial parcels within the region. The codebook for details can be accessed at <https://www.mass.gov/files/documents/2016/08/wr/classificationcodebook.pdf>.

**Table 5 Production, Distribution, and Repair Use Codes**

Use Code	Description
310	Tanks Holding Fuel and Oil Products for Retail Distribution, either Above Ground or Underground (Underground tanks of service stations would be real estate, however, above ground tanks that rest on concrete saddles or steel frames that can be separated without damage are personal property.)
311	Bottled Gas and Propane Gas Tanks
312	Grain and Feed Elevators
313	Lumber Yards
314	Trucking Terminals
315	Piers, Wharves, Docks, and related facilities that are used for storage and transit of goods
316	Other Storage, Warehouse, and Distribution facilities (see also Industrial Code 401)
317	Farm Buildings - barns, silo, utility shed, etc.
318	Commercial Greenhouses
332	Auto Repair Facilities
354	Bus Transportation Facilities and Related Properties
400	Buildings for manufacturing operations
401	Warehouses for storage of manufactured products
402	Office Building - part of manufacturing operation
403	Land (integral part of manufacturing operation)
410	Research and Development facilities
411	Sand and Gravel (mining and quarrying)
412	Gypsum (mining and quarrying)
413	Rock (mining and quarrying)
420	Other (mining and quarrying)
421	Tanks (utility properties)
422	Liquid Natural Gas Tanks (utility properties)
423	Electric Transmission Right-of-Way (utility properties)
424	Electricity Regulating Substations
425	Gas Production Plants
426	Gas Pipeline Right-of Way

427	Natural or Manufactured Gas Storage
428	Gas Pressure Control Stations
430	Telephone Exchange Stations
431	Telephone Relay Towers
432	Cable TV Transmitting Facilities
433	Radio, Television Transmission Facilities
440	Developable Land (Vacant Land - Accessory to Industrial Property)
441	Potentially Developable Land (Vacant Land - Accessory to Industrial Property)
442	Undevelopable Land (Vacant Land - Accessory to Industrial Property)
450	Electric Generation Plants
451	Electric Generation Plants, Renewable
452	Electric Generation Plants, Agreement Value
508	Cellular/Mobile Wireless
550	Electric Generation Plants Personal Property (Telecommunications Companies)
551	Electric Generation Plant P.P., Renewable (Telecommunications Companies)
552	Electric Generation P. P., Agreement Value (Telecommunications Companies)
924	Mass Highway Department
971	Utility Authority, Electric, Light, Sewer, Water
972	Transportation Authority

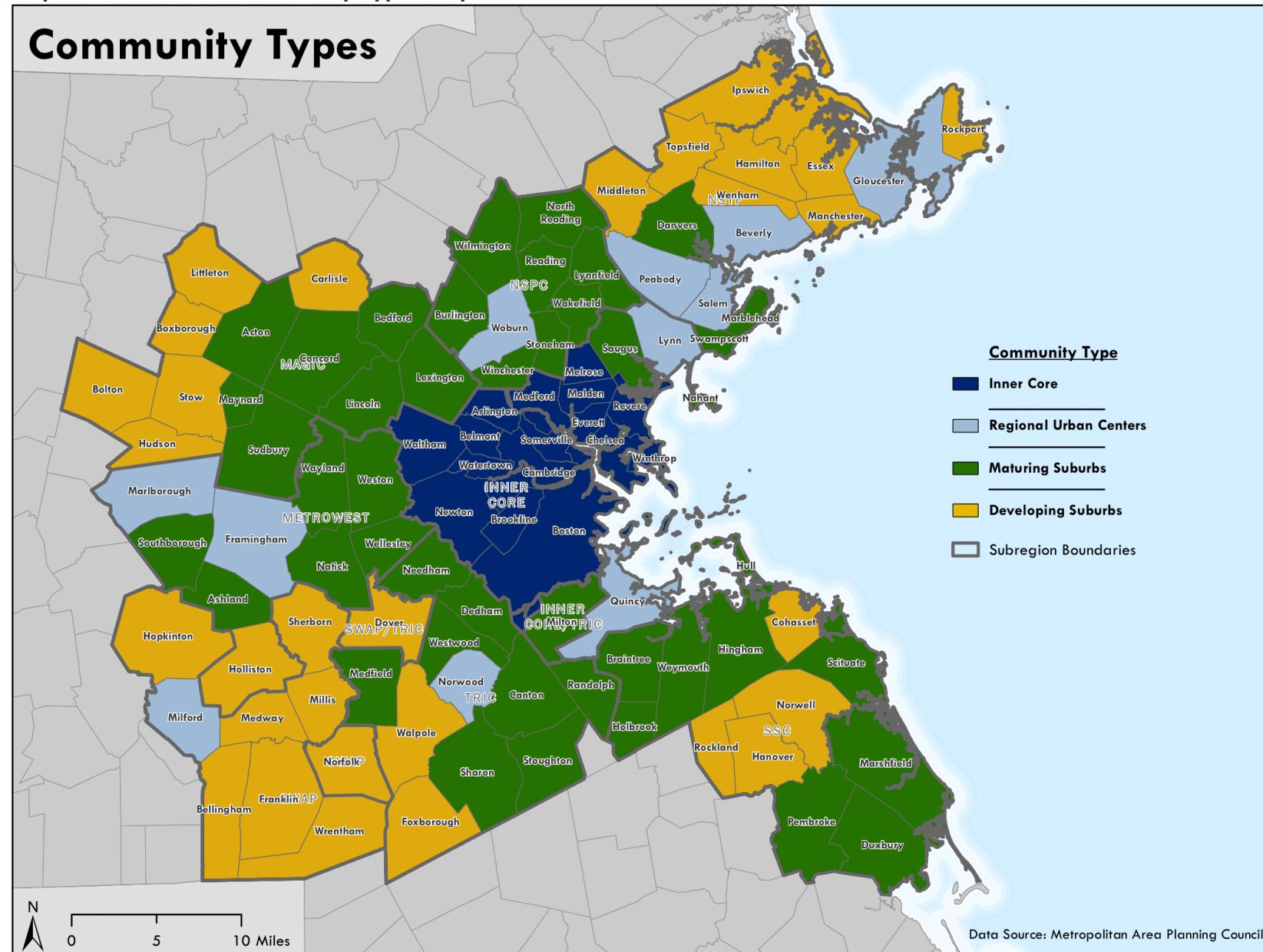
## Appendix C – Massachusetts Community Types

**Table 6 Massachusetts Community Types Summary Description**

Inner Core	<p><b>Metropolitan Core Communities</b>  <i>High density inner cities</i></p> <ul style="list-style-type: none"> <li>• Urban environment with mix of apartment buildings, multifamily houses, single family houses</li> <li>• Completely “built-out”</li> <li>• New growth: redevelopment, infill, and conversion from industrial uses to residential</li> <li>• Large minority and immigrant populations; recovering from urban disinvestment/suburban flight in the 1960s and 1970s</li> </ul>
Inner Core	<p><b>Streetcar Suburbs</b>  <i>Historic, high-density suburbs near the urban core</i></p> <ul style="list-style-type: none"> <li>• Village-oriented residential neighborhoods dominated by multifamily homes and smaller apartment buildings</li> <li>• All are essentially built-out</li> <li>• Very little new growth: limited redevelopment, infill, and expansion of existing structures</li> <li>• Moderately diverse population; stable or losing population due to decreasing household size.</li> </ul>
Regional Urban Centers	<p><b>Major Regional Urban Centers</b>  <i>Large, high-density urban centers not proximate to Boston</i></p> <ul style="list-style-type: none"> <li>• Large urban communities (&gt;70,000 residents) with a mix of housing types (predominantly multifamily)</li> <li>• Nearly built out; scattered parcels of vacant developable land (&lt;15% of land area is vacant &amp; developable)</li> <li>• New growth: redevelopment, infill, and conversion from industrial uses to residential uses</li> <li>• Have been growing slowly or losing population; low tax base per capita</li> </ul>
Regional Urban Centers	<p><b>Sub-Regional Urban Centers</b>  <i>Small/mid-sized urban downtowns, diverse neighborhoods</i></p> <ul style="list-style-type: none"> <li>• Urban-scale downtown core surrounded by more suburban residential neighborhoods</li> <li>• May be built out, or may have undeveloped land around the periphery</li> <li>• New growth: redevelopment in downtown/industrial areas; greenfield development on periphery</li> <li>• “Built-out” cities have been stable or growing slowly; those with undeveloped land growing more rapidly</li> </ul>
Mature Suburbs	<p><b>Mature Suburbs</b>  <i>Moderate density, nearly built out</i></p> <ul style="list-style-type: none"> <li>• Mid-century suburbs; owner-occupied single-family homes on 1/4 - 1/2 acre lots</li> <li>• Nearly built out; scattered parcels of vacant developable land (&lt;15% of land area is vacant &amp; developable)</li> <li>• New housing units: infill development, some redevelopment, teardowns</li> <li>• Population is relatively stable</li> </ul>

	<p><b>Established Suburbs and Cape Cod Towns</b>  <i>Lower density, approaching buildout</i></p> <ul style="list-style-type: none"> <li>• Lower density suburbs; owner-occupied single-family homes on 3/4 - 1 acre lots</li> <li>• Approaching buildout; limited amounts of vacant land (&lt;20% of land area is vacant &amp; developable)</li> <li>• New growth: teardowns, small-scale greenfield development, some redevelopment.</li> <li>• Population is stable or growing moderately</li> </ul>
<b>Developing Suburbs</b>	<p><b>Maturing New England Towns</b>  <i>Well-defined town center, mixed densities, room to grow</i></p> <ul style="list-style-type: none"> <li>• Mixed-use town center surrounded by compact neighborhoods (1/4 - 1/2 acre lots), low-density outlying areas</li> <li>• Large amounts of vacant developable land (&gt;25% of total town area is vacant &amp; developable)</li> <li>• New growth: conventional subdivision development on vacant land</li> <li>• Population and households growing rapidly; adding residential land rapidly</li> </ul>
	<p><b>Country Suburbs</b>  <i>Very low density, room to grow, country character</i></p> <ul style="list-style-type: none"> <li>• Low density communities with no significant town center and no compact neighborhoods</li> <li>• Large amounts of vacant developable land (&gt;35% of total town area is vacant &amp; developable)</li> <li>• New growth: conventional low-density subdivision development on vacant land</li> <li>• Generally growing rapidly (population and households)</li> </ul>
<b>Rural Towns</b>	<p><b>Rural Towns</b>  <i>Small, scattered population; slow growth</i></p> <ul style="list-style-type: none"> <li>• Very low-density communities with no significant town center and scattered “farmstead” settlements; very few subdivisions; very limited economic development</li> <li>• Very large amounts of vacant developable land (&gt;40% of total town area is vacant &amp; developable)</li> <li>• New growth: small amounts of scattered residential development (average below 15 acres/year)</li> <li>• Population less than 2,500 and growing slowly</li> </ul>

Map 4 Massachusetts Community Types Map



## Appendix D – Industrial Land Inventory Across MAPC subregions

**Table 7 Industrial Land Inventory Across MAPC Subregions, 2011 - 2021 (acres)**

Subregions	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
NSTF	807.6	809.8	809.8	808.9	808.8	805.6	806.3	810.3	818.3	819.3	824.7
TRIC	747.2	747.8	741.1	735.9	738.0	740.7	745.3	740.9	741.1	743.7	748.6
MAGIC	674.7	675.2	667.7	667.0	673.8	674.0	674.3	675.2	676.1	674.2	674.7
INNER CORE	1,648.8	1,617.9	1,597.4	1,589.4	1,551.9	1,525.0	1,503.9	1,484.3	1,478.3	1,468.7	1,467.8
METROWEST	372.0	363.9	360.5	357.3	353.5	353.5	351.1	347.0	350.4	351.1	350.6
SWAP	345.5	346.9	344.7	345.0	347.1	346.6	350.2	354.9	356.6	360.8	365.0
SWAP/TRIC	31.8	31.8	31.8	31.8	31.8	31.9	31.9	31.9	32.2	32.3	32.0
NSPC	1,664.0	1,658.2	1,645.5	1,640.9	1,641.0	1,639.9	1,628.0	1,620.4	1,621.6	1,614.1	1,609.3
INNER CORE/TRIC	106.9	105.1	104.1	103.4	94.7	94.1	91.8	91.6	91.6	91.3	92.2
SSC	1,045.1	1,035.2	1,036.2	1,038.9	1,033.4	1,022.4	1,024.0	1,027.4	1,030.0	1,036.3	1,034.2

## Appendix E – Industrial Land Inventory by Zip Codes

**Table 8 Change in Industrial Land in the MAPC Region by Zip Code, 2011-2021** (percent change)

Zip Code	Submarket Name	% Change of Industrial Space 2011-2021	02364	Route 3 South Ind	2%
01923	Danvers/Beverly Ind	16%	02341	Route 3 South Ind	2%
01915	Danvers/Beverly Ind	16%	02338	Route 3 South Ind	2%
02032	I-95 Corridor South Ind	8%	02332	Route 3 South Ind	2%
02093	I-95 Corridor South Ind	8%	01432	Groton/Townsend Ind	1%
02071	I-95 Corridor South Ind	8%	01886	Groton/Townsend Ind	1%
02038	I-95 Corridor South Ind	8%	01450	Groton/Townsend Ind	1%
02072	I-95 Corridor South Ind	8%	01921	Amesbury/Ipswich Ind	1%
02067	I-95 Corridor South Ind	8%	01938	Amesbury/Ipswich Ind	1%
02035	I-95 Corridor South Ind	8%	01969	Amesbury/Ipswich Ind	1%
02056	I-95 Corridor South Ind	8%	01951	Amesbury/Ipswich Ind	1%
02762	I-95 Corridor South Ind	8%	01719	Concord/Maynard Ind	1%
02019	I-95 Corridor South Ind	8%	01776	Concord/Maynard Ind	1%
02052	I-95 Corridor South Ind	8%	02493	Concord/Maynard Ind	1%
02054	I-95 Corridor South Ind	8%	01778	Concord/Maynard Ind	1%
02081	I-95 Corridor South Ind	8%	01742	Concord/Maynard Ind	1%
02476	Lexington/Arlington Ind	6%	01718	Concord/Maynard Ind	1%
02420	Lexington/Arlington Ind	6%	01754	Concord/Maynard Ind	1%
02478	Lexington/Arlington Ind	6%	01775	Concord/Maynard Ind	1%
02474	Lexington/Arlington Ind	6%	01460	Concord/Maynard Ind	1%
02421	Lexington/Arlington Ind	6%	01720	Concord/Maynard Ind	1%
01773	Lexington/Arlington Ind	6%	01752	Concord/Maynard Ind	1%
01749	Lexington/Arlington Ind	6%	01731	Concord/Maynard Ind	1%
02126	South Suffolk County Ind	2%	02053	Hopkinton/Holliston Ind	1%
02136	South Suffolk County Ind	2%	01746	Hopkinton/Holliston Ind	1%
02131	South Suffolk County Ind	2%	01721	Hopkinton/Holliston Ind	1%
02132	South Suffolk County Ind	2%	01748	Hopkinton/Holliston Ind	1%
02359	Route 3 South Ind	2%			

02030	Hopkinton/Holliston Ind	1%	01810	Lawrence/Andover Ind	-4%
01770	Hopkinton/Holliston Ind	1%	01730	Lowell/Chelmsford Ind	-4%
01970	Peabody/Salem Ind	0%	01862	Lowell/Chelmsford Ind	-4%
01960	Peabody/Salem Ind	0%	01876	Lowell/Chelmsford Ind	-4%
01945	Peabody/Salem Ind	0%	01741	Lowell/Chelmsford Ind	-4%
01966	Essex/Gloucester Ind	0%	01821	Lowell/Chelmsford Ind	-4%
01930	Essex/Gloucester Ind	0%	01824	Lowell/Chelmsford Ind	-4%
01982	Essex/Gloucester Ind	0%	01908	Saugus/Lynn Ind	-4%
01929	Essex/Gloucester Ind	0%	01901	Saugus/Lynn Ind	-4%
01944	Essex/Gloucester Ind	0%	01902	Saugus/Lynn Ind	-4%
01983	Essex/Gloucester Ind	0%	01906	Saugus/Lynn Ind	-4%
01984	Essex/Gloucester Ind	0%	01907	Saugus/Lynn Ind	-4%
02322	Route 24 Ind	-1%	01904	Saugus/Lynn Ind	-4%
02343	Route 24 Ind	-1%	01905	Saugus/Lynn Ind	-4%
02368	Route 24 Ind	-1%	02050	Route 3 Corridor Ind	-6%
02302	Route 24 Ind	-1%	02190	Route 3 Corridor Ind	-6%
02351	Route 24 Ind	-1%	02189	Route 3 Corridor Ind	-6%
01803	Wilmington/Winchester Ind	-2%	02061	Route 3 Corridor Ind	-6%
02180	Wilmington/Winchester Ind	-2%	02066	Route 3 Corridor Ind	-6%
01890	Wilmington/Winchester Ind	-2%	02025	Route 3 Corridor Ind	-6%
01887	Wilmington/Winchester Ind	-2%	02191	Route 3 Corridor Ind	-6%
01801	Wilmington/Winchester Ind	-2%	02045	Route 3 Corridor Ind	-6%
01864	Wilmington/Winchester Ind	-2%	02339	Route 3 Corridor Ind	-6%
02144	Somerville/Chelsea Ind	-2%	02370	Route 3 Corridor Ind	-6%
02152	Somerville/Chelsea Ind	-2%	02043	Route 3 Corridor Ind	-6%
02143	Somerville/Chelsea Ind	-2%	02188	Route 3 Corridor Ind	-6%
02150	Somerville/Chelsea Ind	-2%	02184	Quincy/Braintree Ind	-6%
02149	Somerville/Chelsea Ind	-2%	02186	Quincy/Braintree Ind	-6%
02151	Somerville/Chelsea Ind	-2%	02170	Quincy/Braintree Ind	-6%
02145	Somerville/Chelsea Ind	-2%	02171	Quincy/Braintree Ind	-6%
02062	Route 1 South Ind	-3%	02169	Quincy/Braintree Ind	-6%
02090	Route 1 South Ind	-3%	01701	Framingham/Natick Ind	-7%
02021	Route 1 South Ind	-3%	01760	Framingham/Natick Ind	-7%
02026	Route 1 South Ind	-3%	01702	Framingham/Natick Ind	-7%
01845	Lawrence/Andover Ind	-4%	02138	W Cambridge Ind	-9%
01949	Lawrence/Andover Ind	-4%	02140	W Cambridge Ind	-9%

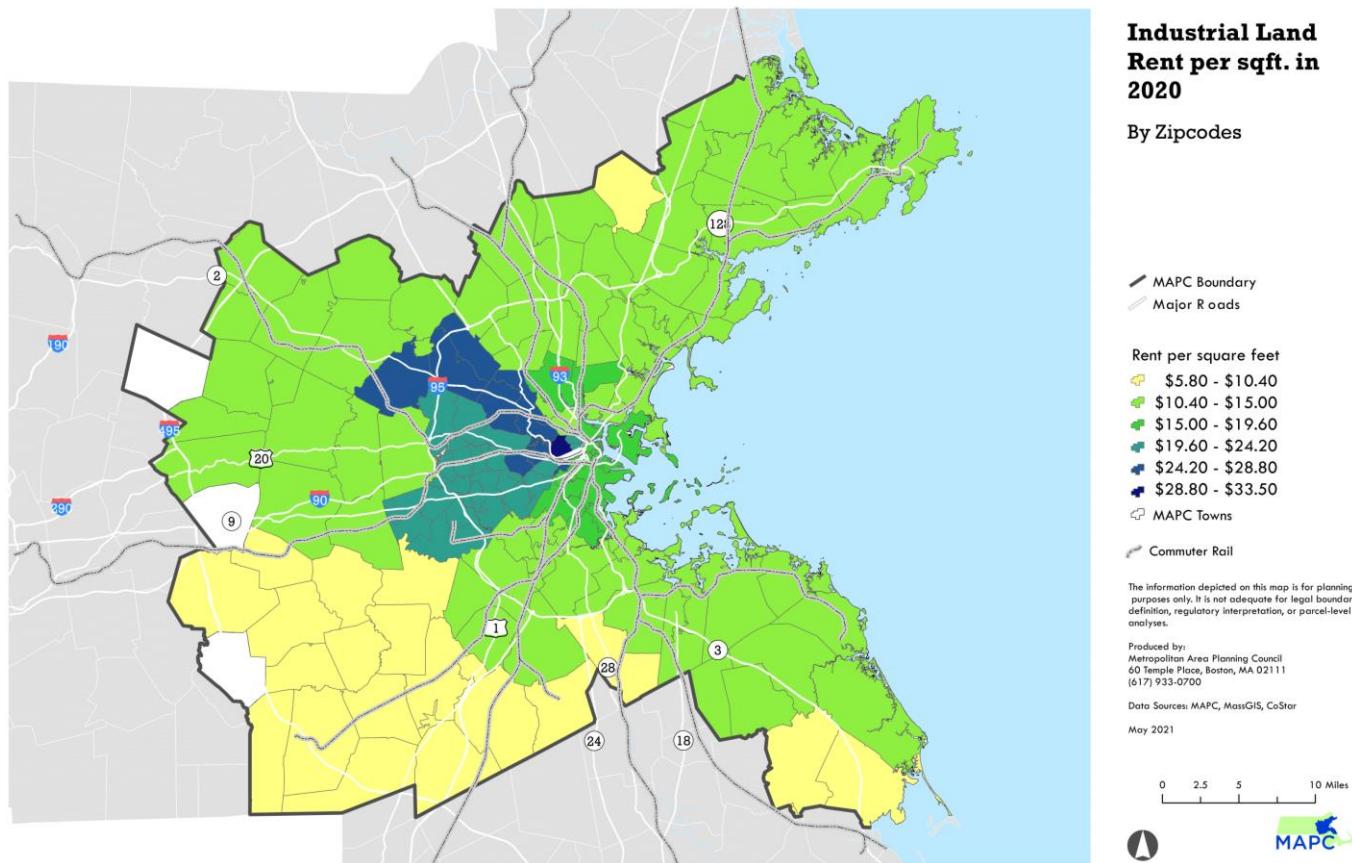
02155	Medford/Malden Ind	-10%	02124	Roxbury/Dorchester Ind	-16%
02148	Medford/Malden Ind	-10%	02121	Roxbury/Dorchester Ind	-16%
02210	Ft Pt Chan/S Boston Ind	-11%	02122	Roxbury/Dorchester Ind	-16%
02109	Downtown Boston Ind	-13%	02130	Roxbury/Dorchester Ind	-16%
02128	Downtown Boston Ind	-13%	01940	Reading/Melrose Ind	-17%
02116	Downtown Boston Ind	-13%	01867	Reading/Melrose Ind	-17%
02199	Downtown Boston Ind	-13%	01880	Reading/Melrose Ind	-17%
02110	Downtown Boston Ind	-13%	02176	Reading/Melrose Ind	-17%
02129	Downtown Boston Ind	-13%	02141	E Cambridge Ind	-20%
02113	Downtown Boston Ind	-13%	02142	E Cambridge Ind	-20%
02114	Downtown Boston Ind	-13%	02446	Newton/Dover Ind	-30%
02111	Downtown Boston Ind	-13%	02464	Newton/Dover Ind	-30%
02108	Downtown Boston Ind	-13%	02466	Newton/Dover Ind	-30%
02163	Brighton/Fenway Ind	-15%	02460	Newton/Dover Ind	-30%
02135	Brighton/Fenway Ind	-15%	02462	Newton/Dover Ind	-30%
02134	Brighton/Fenway Ind	-15%	02465	Newton/Dover Ind	-30%
02215	Brighton/Fenway Ind	-15%	02494	Newton/Dover Ind	-30%
02452	Waltham/Watertown Ind	-16%	02461	Newton/Dover Ind	-30%
02451	Waltham/Watertown Ind	-16%	02481	Newton/Dover Ind	-30%
02453	Waltham/Watertown Ind	-16%	02482	Newton/Dover Ind	-30%
02472	Waltham/Watertown Ind	-16%	02445	Newton/Dover Ind	-30%
02125	Roxbury/Dorchester Ind	-16%	02468	Newton/Dover Ind	-30%
02115	Roxbury/Dorchester Ind	-16%	02459	Newton/Dover Ind	-30%
02119	Roxbury/Dorchester Ind	-16%	02458	Newton/Dover Ind	-30%
02127	Roxbury/Dorchester Ind	-16%	02492	Newton/Dover Ind	-30%
02120	Roxbury/Dorchester Ind	-16%	02467	Newton/Dover Ind	-30%
02118	Roxbury/Dorchester Ind	-16%	02139	Mid-Cambridge Ind	-32%

## Appendix F – Median Industrial Rents Across MAPC Subregions

**Table 9 Median Industrial Land Rent Across MAPC Subregions, 2011-2021** (\$ per sq. ft. with standard deviation)

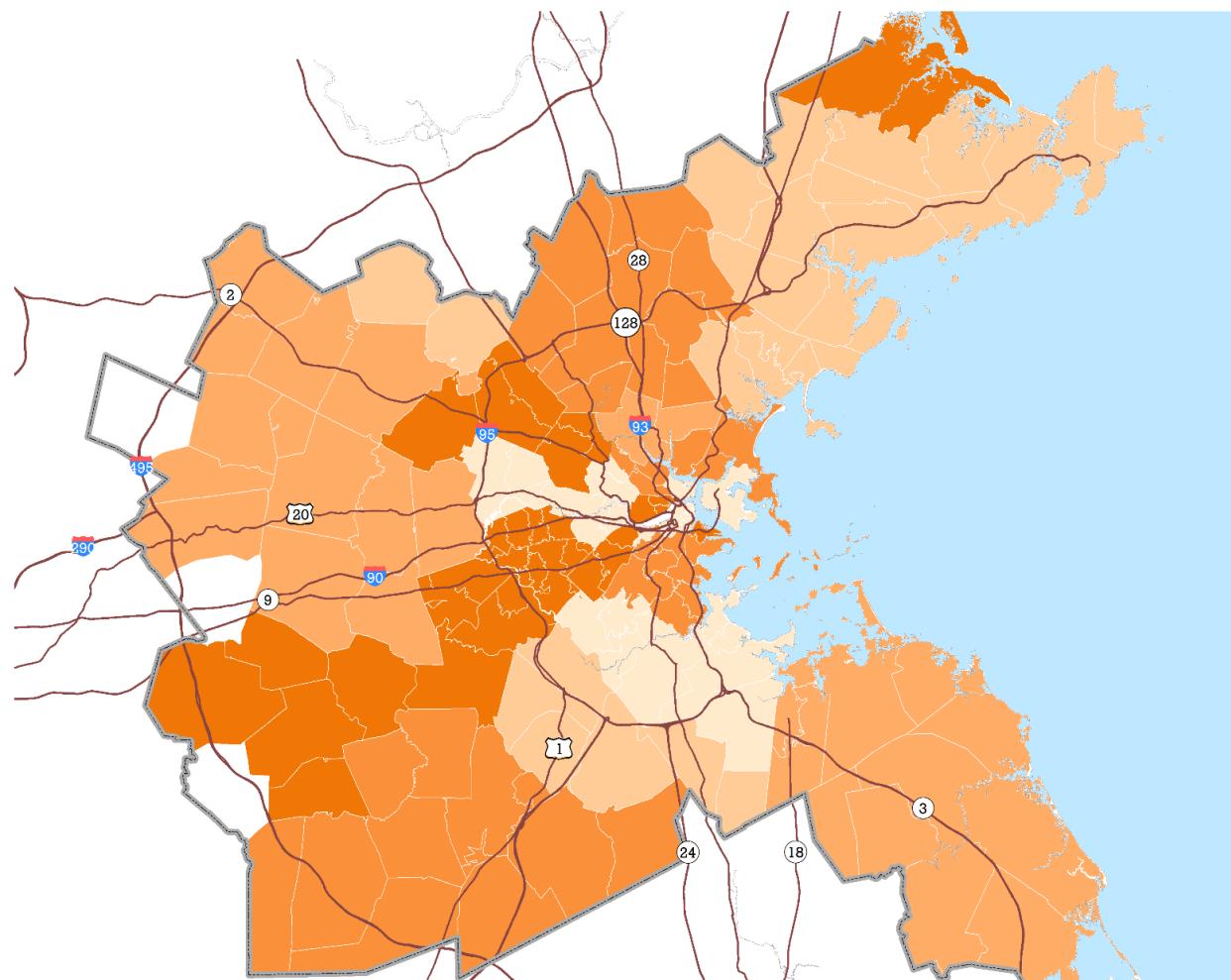
Median Rents $\pm$ Std. Deviation	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
<i>NSTF</i>	7.8 $\pm$ 0.7	7.9 $\pm$ 0.7	8.1 $\pm$ 0.7	8.4 $\pm$ 0.7	8.8 $\pm$ 0.8	9.2 $\pm$ 0.8	9.6 $\pm$ 0.8	10.3 $\pm$ 0.9	11.0 $\pm$ 0.9	11.7 $\pm$ 1.0	12.7 $\pm$ 1.0
<i>TRIC</i>	6.5 $\pm$ 0.5	6.6 $\pm$ 0.5	6.8 $\pm$ 0.5	7.1 $\pm$ 0.5	7.5 $\pm$ 0.5	7.8 $\pm$ 0.5	8.3 $\pm$ 0.6	8.9 $\pm$ 0.6	9.4 $\pm$ 0.6	9.8 $\pm$ 0.7	10.7 $\pm$ 0.7
<i>MAGIC</i>	7.7 $\pm$ 3.8	7.8 $\pm$ 3.8	8.1 $\pm$ 4.0	8.4 $\pm$ 4.1	8.8 $\pm$ 4.2	9.2 $\pm$ 4.4	9.7 $\pm$ 4.7	10.4 $\pm$ 5.0	11.0 $\pm$ 5.3	11.6 $\pm$ 5.3	12.6 $\pm$ 5.8
<i>INNER CORE</i>	12.4 $\pm$ 3.4	12.5 $\pm$ 3.5	12.8 $\pm$ 3.6	13.4 $\pm$ 3.7	14.1 $\pm$ 3.8	15.1 $\pm$ 4.0	16.0 $\pm$ 4.2	17.1 $\pm$ 4.5	18.3 $\pm$ 4.8	19.2 $\pm$ 4.8	20.9 $\pm$ 5.2
<i>METROWEST</i>	7.7 $\pm$ 2.3	7.9 $\pm$ 2.4	8.1 $\pm$ 2.4	8.5 $\pm$ 2.5	8.9 $\pm$ 2.6	9.3 $\pm$ 2.7	9.8 $\pm$ 2.9	10.5 $\pm$ 3.1	11.2 $\pm$ 3.3	11.7 $\pm$ 3.5	12.7 $\pm$ 3.7
<i>SWAP</i>	6.5 $\pm$ 0.0	6.6 $\pm$ 0.1	6.8 $\pm$ 0.1	7.1 $\pm$ 0.1	7.5 $\pm$ 0.0	7.8 $\pm$ 0.0	8.3 $\pm$ 0.0	8.9 $\pm$ 0.0	9.4 $\pm$ 0.0	9.8 $\pm$ 0.0	10.7 $\pm$ 0.0
<i>NSPC</i>	9.1 $\pm$ 1.1	9.2 $\pm$ 1.1	9.5 $\pm$ 1.2	9.9 $\pm$ 1.2	10.3 $\pm$ 1.3	10.8 $\pm$ 1.3	11.4 $\pm$ 1.4	12.2 $\pm$ 1.5	13.0 $\pm$ 1.6	13.7 $\pm$ 1.7	14.9 $\pm$ 1.8
<i>SSC</i>	7.5 $\pm$ 0.7	7.6 $\pm$ 0.7	7.8 $\pm$ 0.7	8.1 $\pm$ 0.8	8.5 $\pm$ 0.8	8.8 $\pm$ 0.8	9.3 $\pm$ 0.8	10.0 $\pm$ 0.9	10.6 $\pm$ 0.9	11.2 $\pm$ 1.0	12.1 $\pm$ 1.0

**Map 5 Industrial Land Rents Within the MAPC Region, 2020 (per sq. ft.)**



## Appendix G – Industrial Land Vacancy Rates

Map 6 Industrial Vacancy Rates Within the MAPC Region, 2021



### Industrial Land Vacancy Rates in 2021

By Zipcodes

#### Vacancy Rates (%)

- MAPC Boundary
- Major Roads
- 8.2 - 21.5
- 4.7 - 8.1
- 3.5 - 4.6
- 2.7 - 3.4
- 0.2 - 2.6

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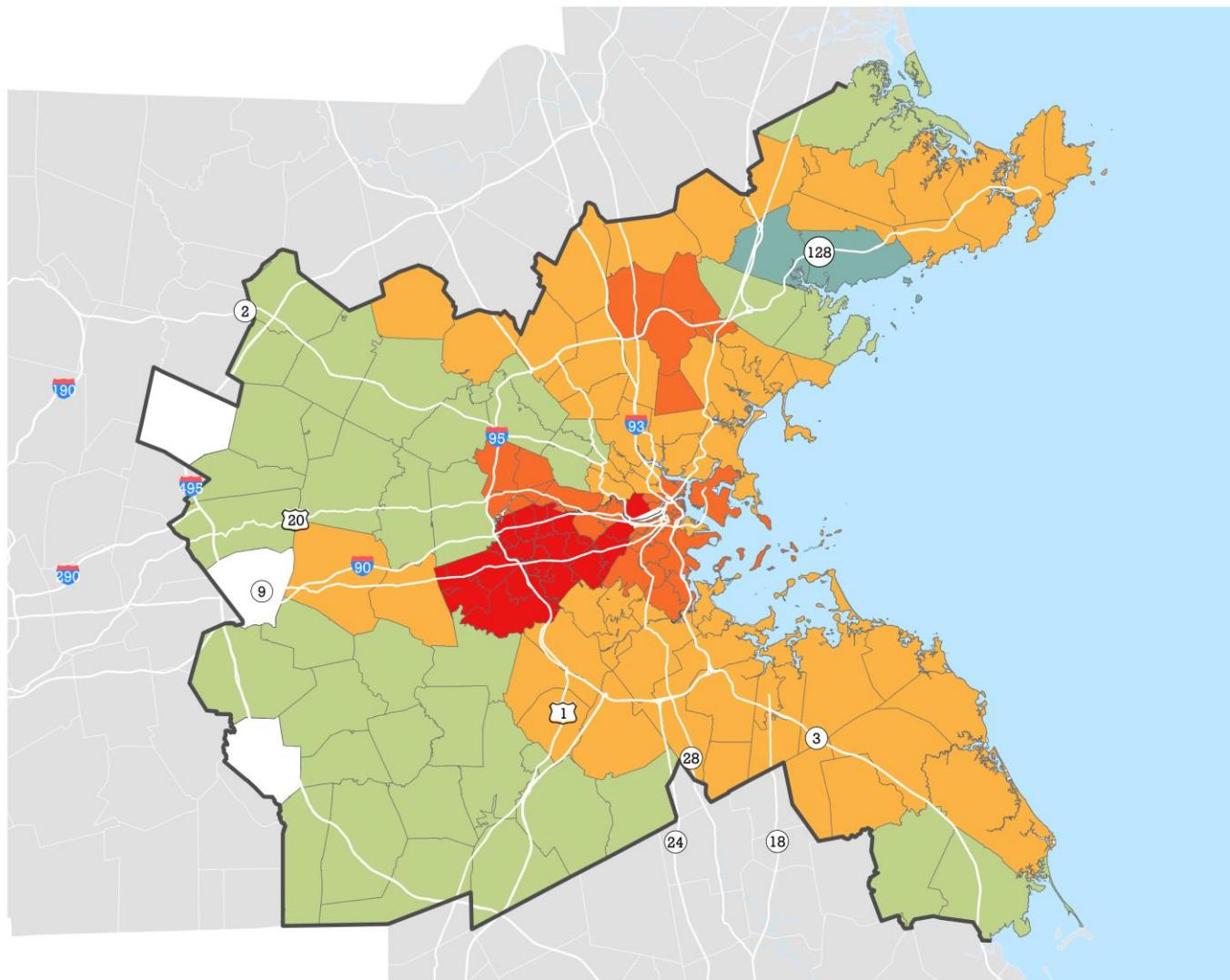
Data Sources: MAPC, MassGIS, CoStar  
August 2021

0 2.25 4.5 9 Miles



## Appendix H – Annual Industrial Inventory Change 2011-2020

Map 7 Change in Industrial Land Inventory, 2011-2020



### Industrial Land Inventory in 2020 Relative to 2011

By Zipcodes

MAPC Boundary

Major Roads

Percent change in Industrial Land Inventory since 2011

- 11% to 22% (Gain)
- 1% to 11% (Gain)
- 0% (Unchanged)
- 11% to -1% (Lost)
- 22% to -11% (Lost)
- 33% to -22% (Lost)

MAPC Towns

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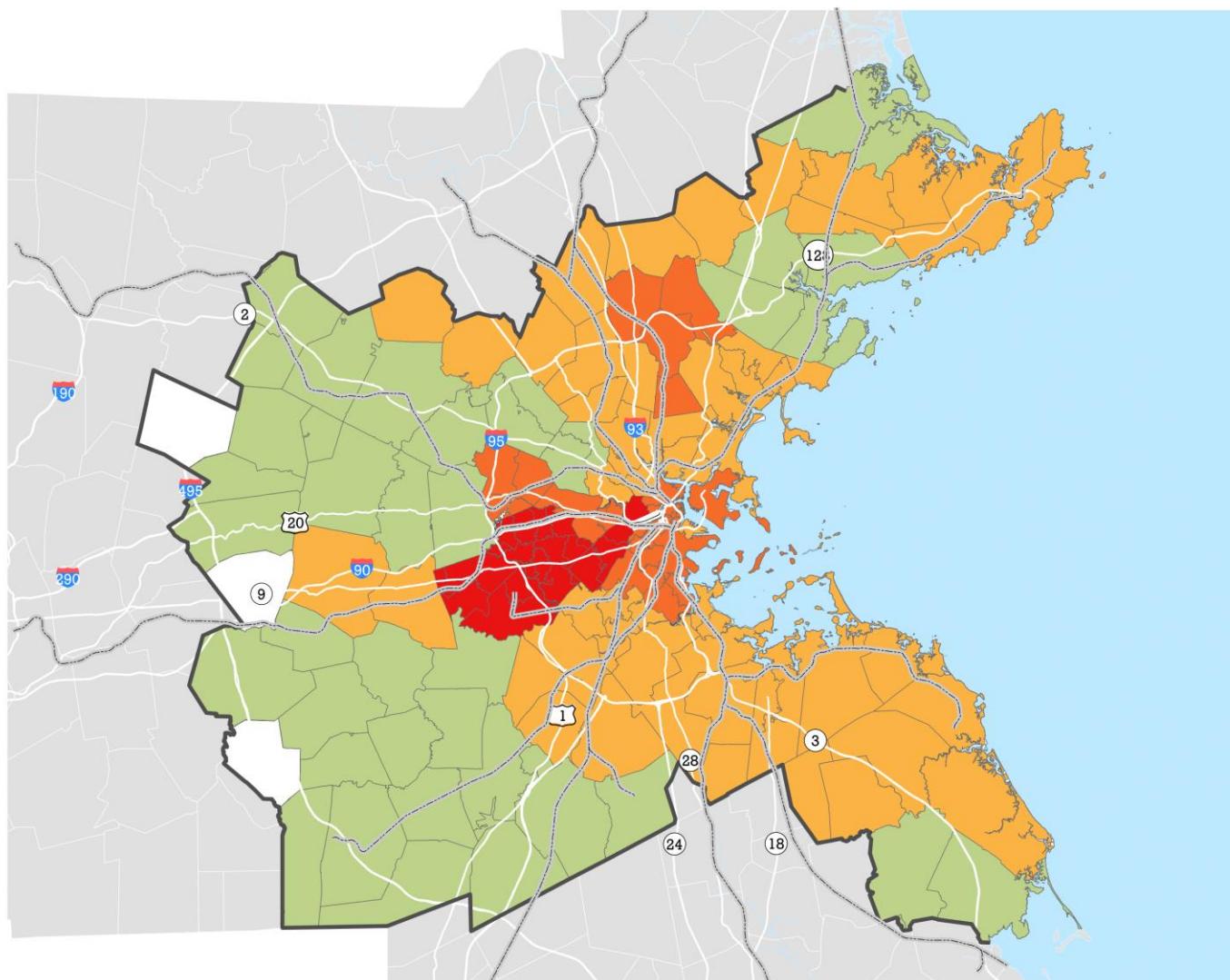
Data Sources: MAPC, MassGIS, CoStar

May 2021

0 2.5 5 10 Miles



Map 8 Change in Industrial Land Inventory, 2011-2019



### Industrial Land Inventory in 2019 Relative to 2011

By Zipcodes

MAPC Boundary

Major Roads

Percent change in Industrial Land Inventory since 2011

11% to 22% (Gain)

1% to 11% (Gain)

0% (Unchanged)

-11% to -1% (Lost)

-22% to -11% (Lost)

-33% to -22% (Lost)

MAPC Towns

Commuter Rail

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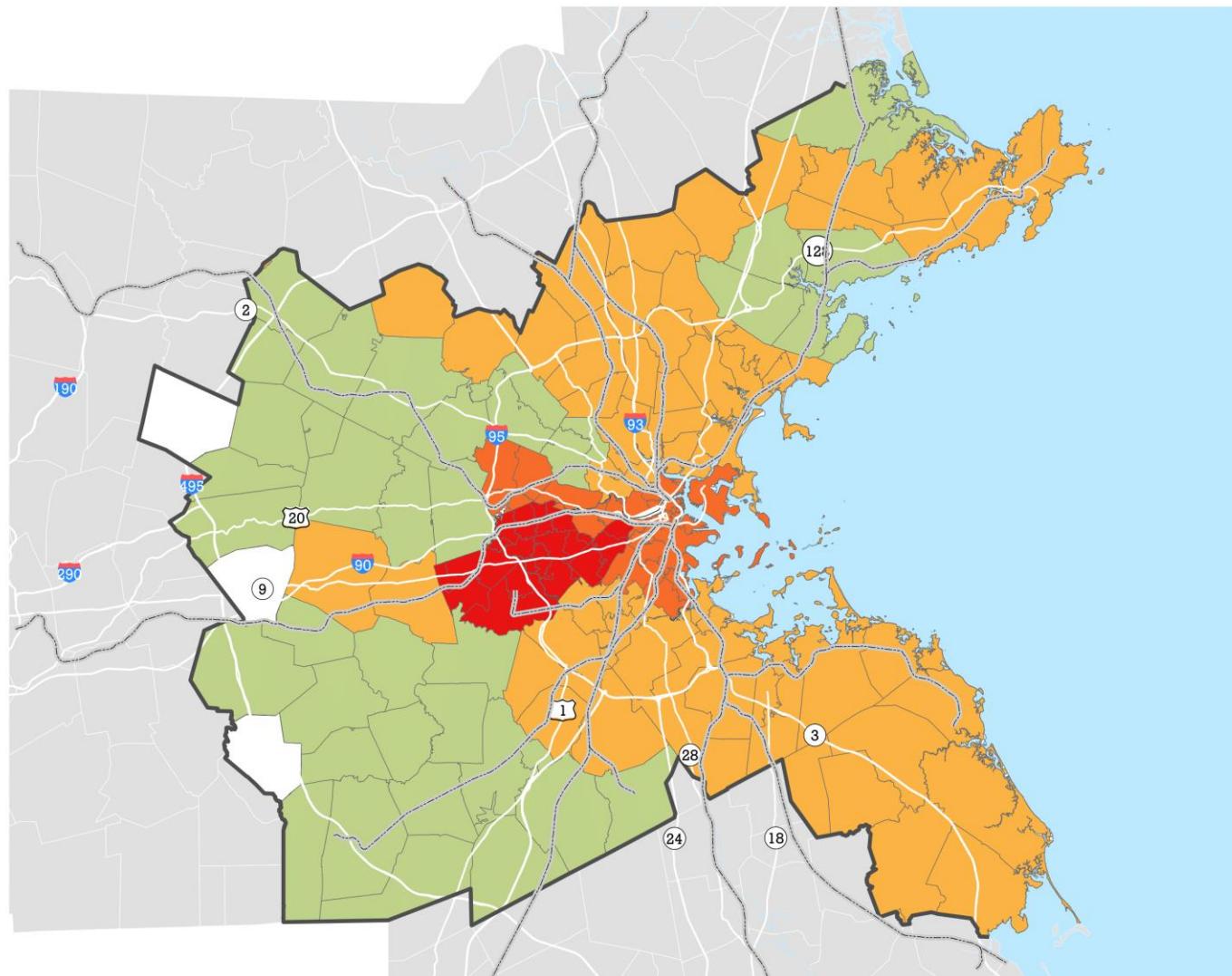
Data Sources: MAPC, MassGIS, CoStar

May 2021

0 2.5 5 10 Miles



Map 9 Change in Industrial Land Inventory, 2018-2020



**Industrial Land  
Inventory in 2018  
Relative to 2011**

By Zipcodes

MAPC Boundary

Major Roads

Percent change in Industrial  
Land Inventory since 2011

- 11% to 22% (Gain)
- 1% to 11% (Gain)
- 0% (Unchanged)
- 11% to -1% (Lost)
- 22% to -11% (Lost)
- 33% to -22% (Lost)

MAPC Towns

Commuter Rail

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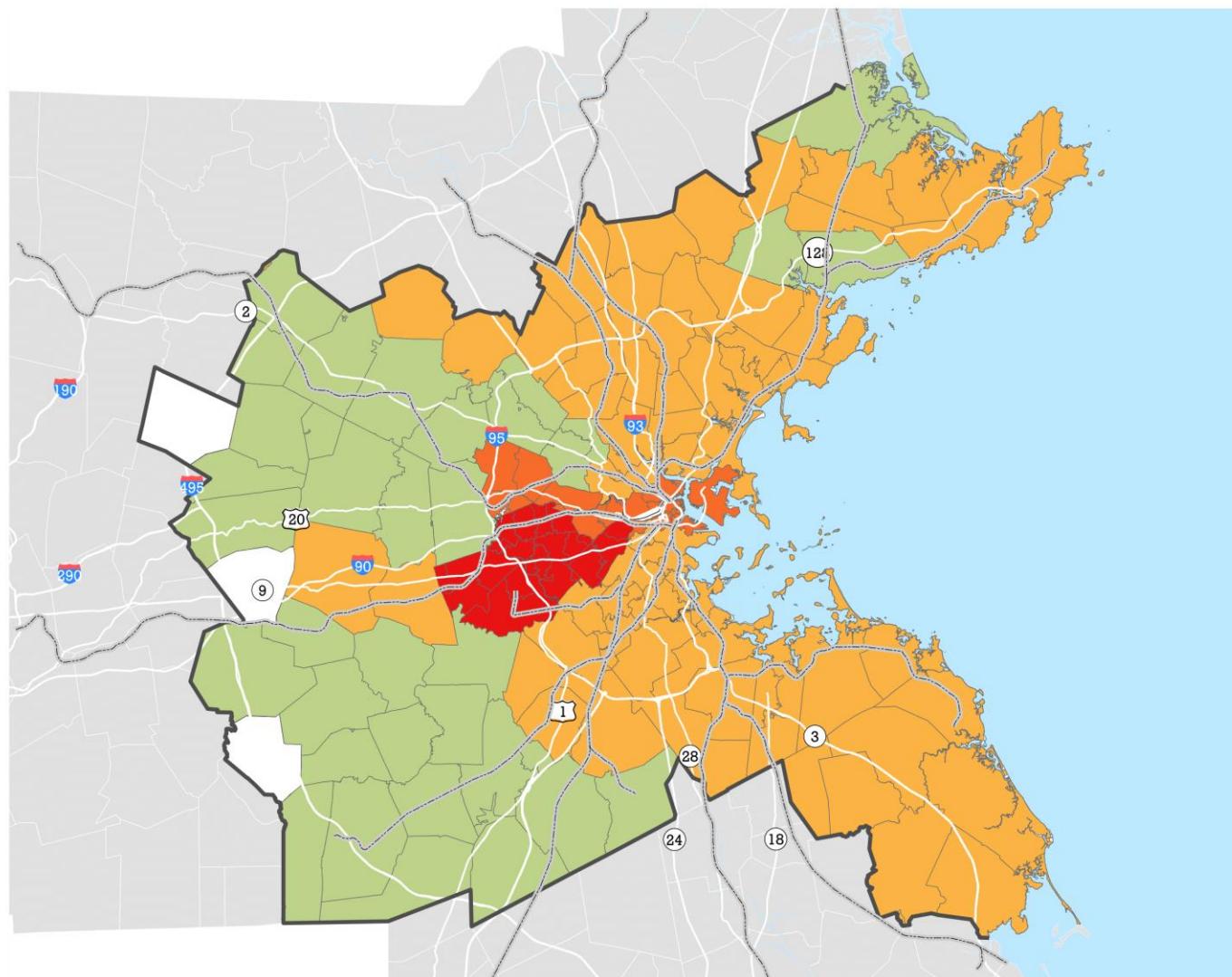
Data Sources: MAPC, MassGIS, CoStar

May 2021

0 2.5 5 10 Miles



Map 10 Change in Industrial Land Inventory, 2017-2020



**Industrial Land  
Inventory in 2017  
Relative to 2011**

By Zipcodes

MAPC Boundary

Major Roads

Percent change in Industrial  
Land Inventory since 2011

- 11% to 22% (Gain)
- 1% to 11% (Gain)
- 0% (Unchanged)
- 11% to -1% (Lost)
- 22% to -11% (Lost)
- 33% to -22% (Lost)

MAPC Towns

Commuter Rail

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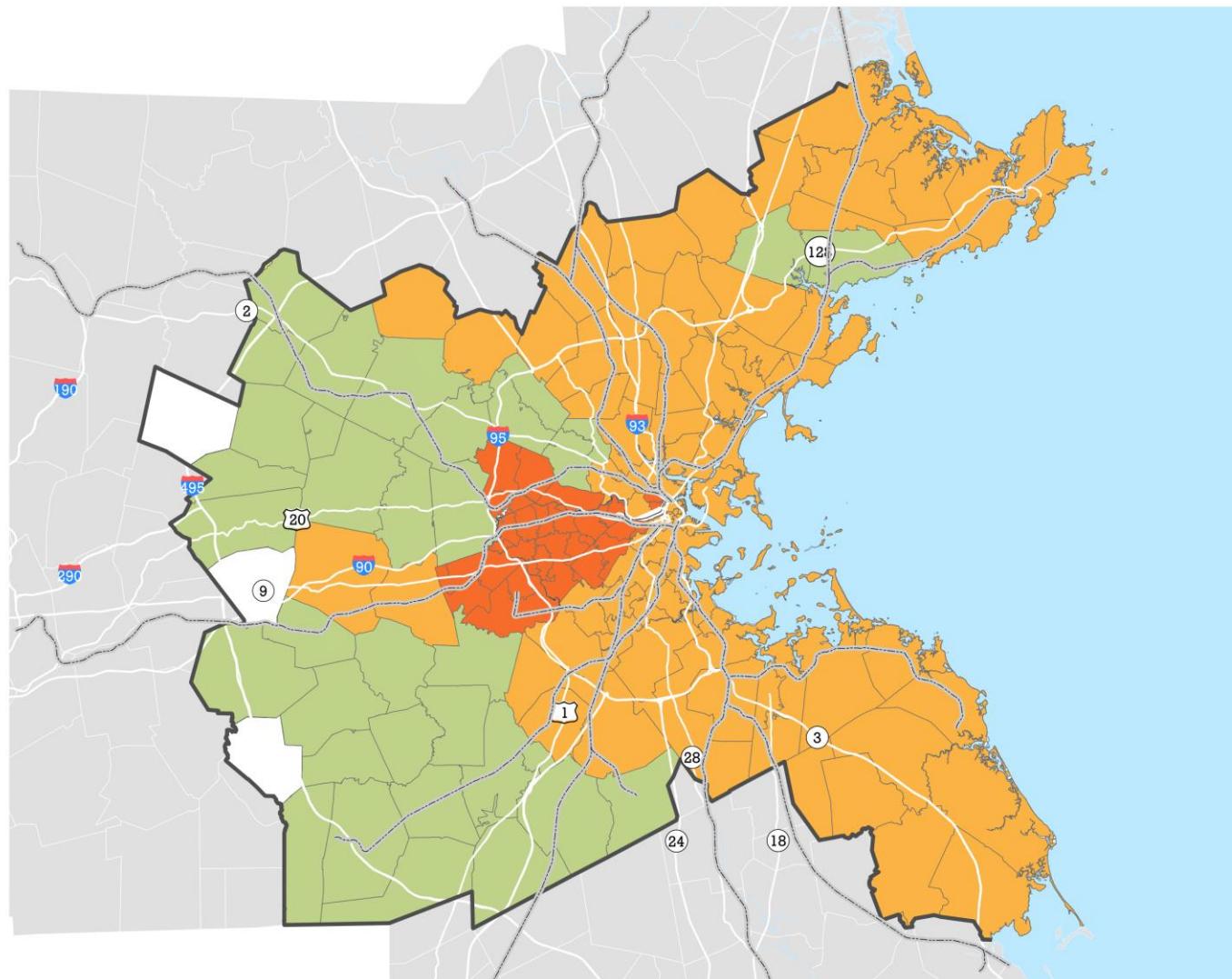
Data Sources: MAPC, MassGIS, CoStar

May 2021

0 2.5 5 10 Miles



Map 11 Change in Industrial Land Inventory, 2016-2020



**Industrial Land  
Inventory in 2016  
Relative to 2011**

By Zipcodes

MAPC Boundary

Major Roads

Percent change in Industrial  
Land Inventory since 2011

- 11% to 22% (Gain)
- 1% to 11% (Gain)
- 0% (Unchanged)
- 11% to -1% (Lost)
- 22% to -11% (Lost)
- 33% to -22% (Lost)

MAPC Towns

Commuter Rail

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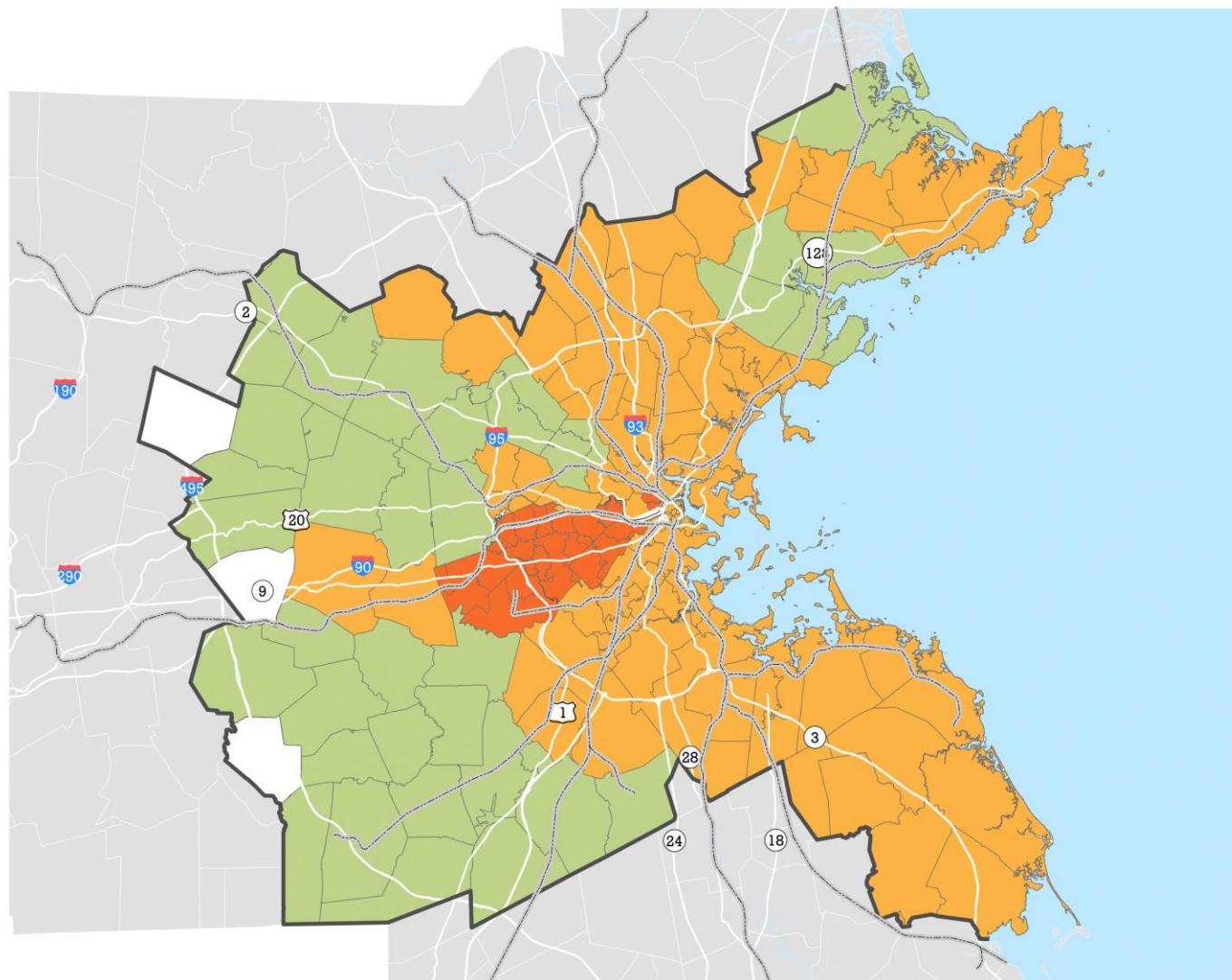
Data Sources: MAPC, MassGIS, CoStar

May 2021

0 2.5 5 10 Miles



Map 12 Change in Industrial Land Inventory, 2015-2020



**Industrial Land Inventory in 2015 Relative to 2011**

By Zipcodes

MAPC Boundary

Major Roads

Percent change in Industrial Land Inventory since 2011

- 11% to 22% (Gain)
- 1% to 11% (Gain)
- 0% (Unchanged)
- 11% to -1% (Lost)
- 22% to -11% (Lost)
- 33% to -22% (Lost)

MAPC Towns

Commuter Rail

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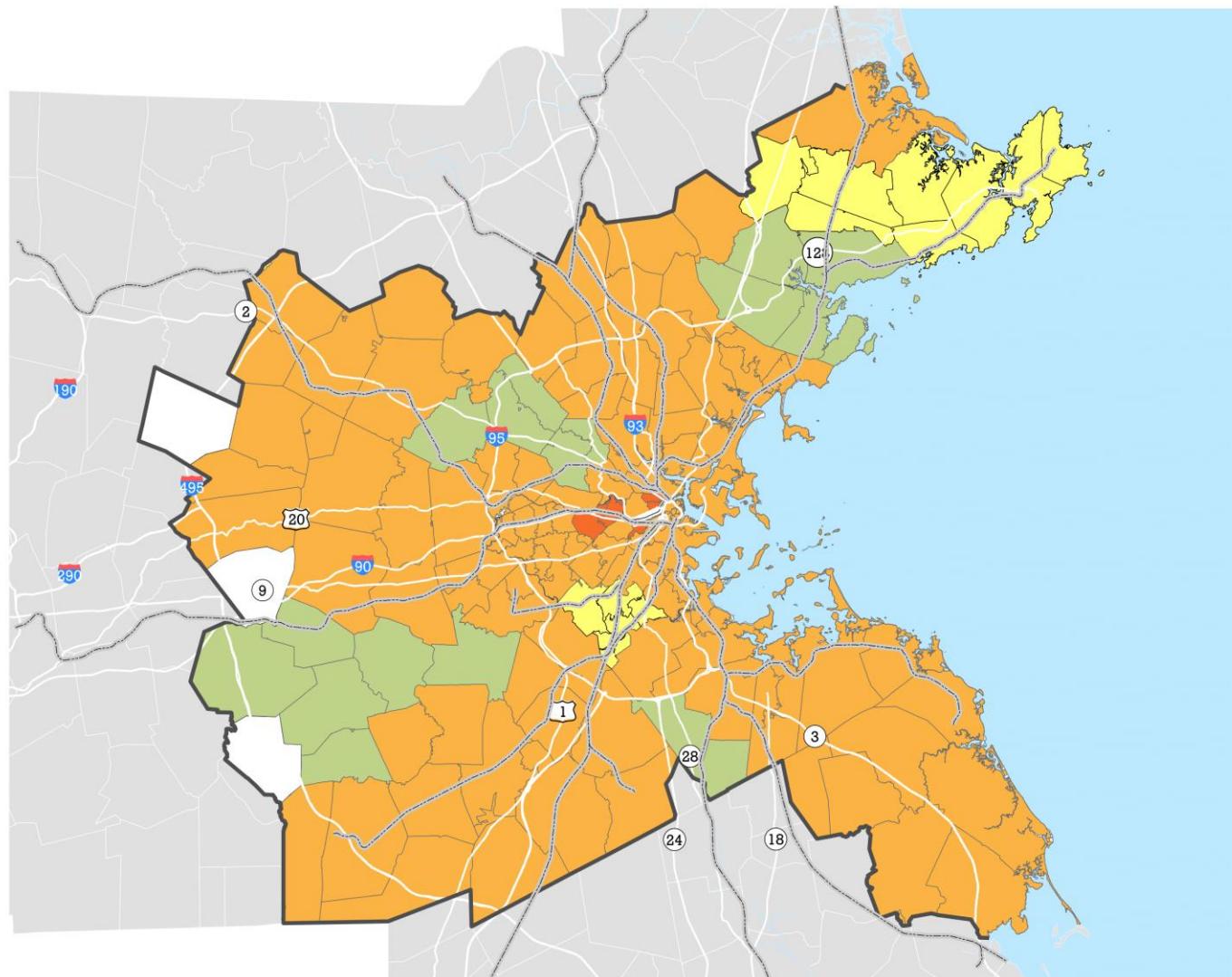
Data Sources: MAPC, MassGIS, CoStar

May 2021

0 2.5 5 10 Miles



Map 13 Change in Industrial Land Inventory, 2014-2020



**Industrial Land Inventory in 2014 Relative to 2011**

By Zipcodes

MAPC Boundary

Major Roads

Percent change in Industrial Land Inventory since 2011

- 11% to 22% (Gain)
- 1% to 11% (Gain)
- 0% (Unchanged)
- 11% to -1% (Lost)
- 22% to -11% (Lost)
- 33% to -22% (Lost)

MAPC Towns

Commuter Rail

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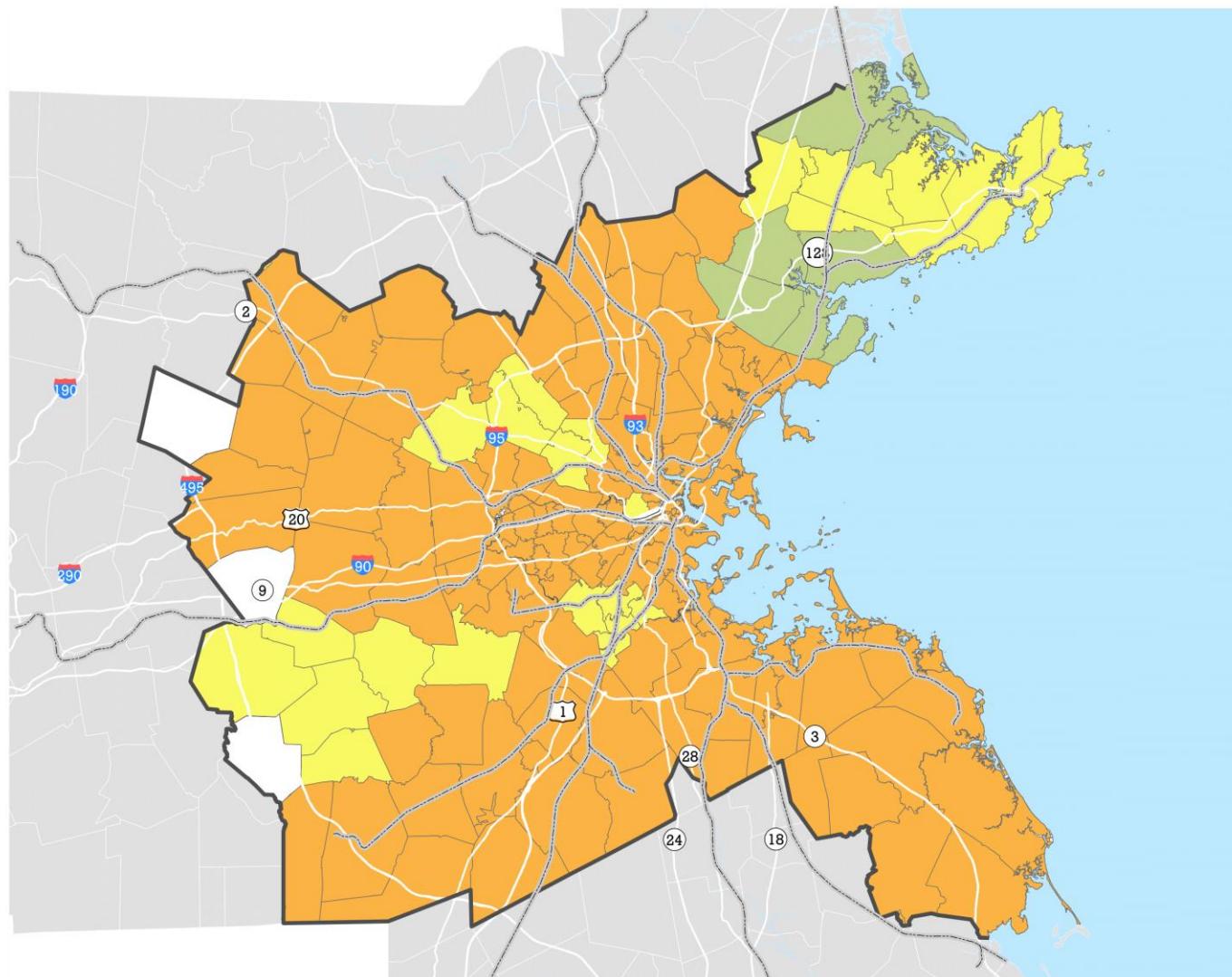
Data Sources: MAPC, MassGIS, CoStar

May 2021

0 2.5 5 10 Miles



Map 14 Change in Industrial Land Inventory, 2013-2020



**Industrial Land  
Inventory in 2013  
Relative to 2011**

By Zipcodes

MAPC Boundary

Major Roads

Percent change in Industrial  
Land Inventory since 2011

11% to 22% (Gain)

1% to 11% (Gain)

0% (Unchanged)

-11% to -1% (Lost)

-22% to -11% (Lost)

-33% to -22% (Lost)

MAPC Towns

Commuter Rail

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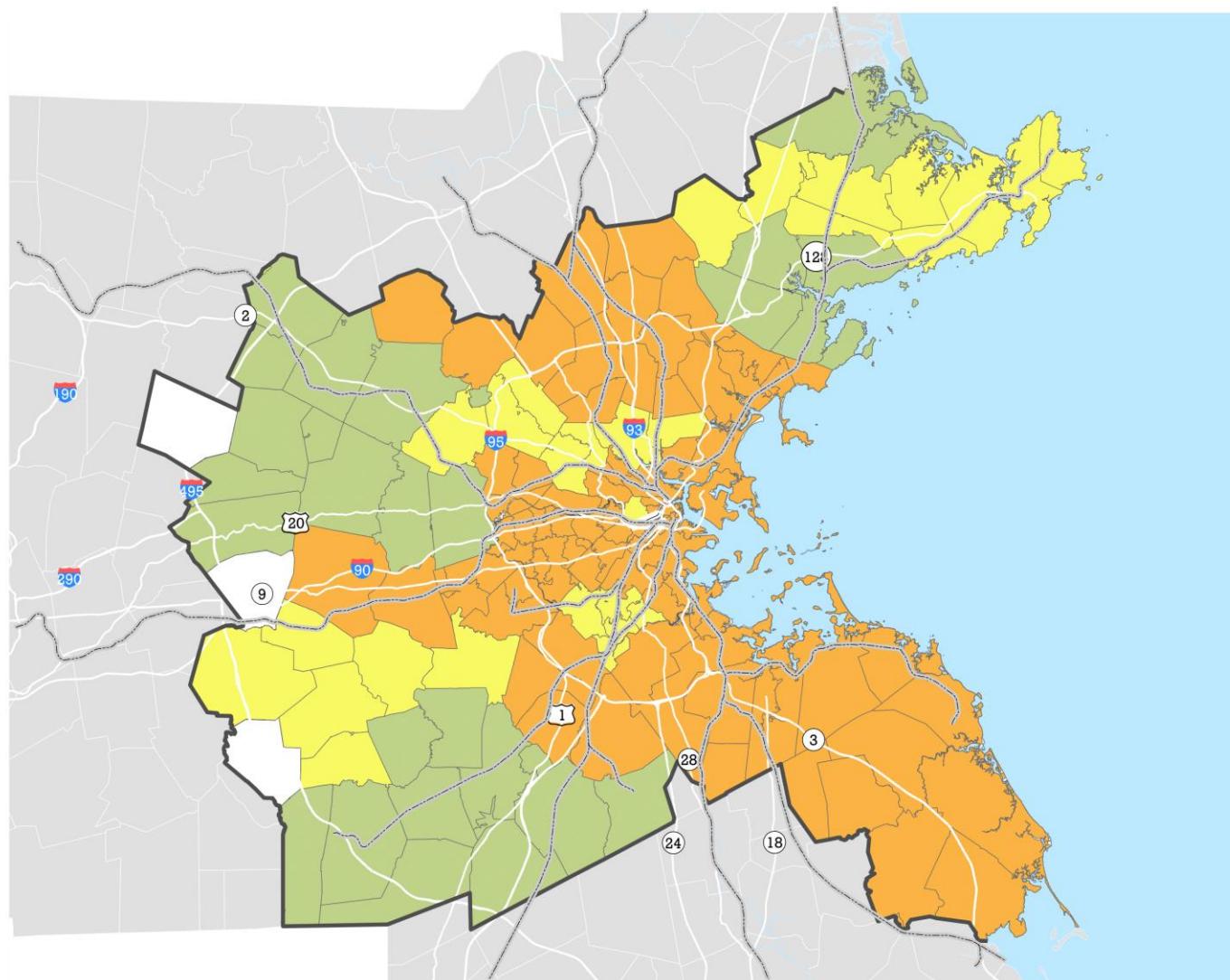
Data Sources: MAPC, MassGIS, CoStar

May 2021

0 2.5 5 10 Miles



Map 15 Change in Industrial Land Inventory, 2012-2020



**Industrial Land  
Inventory in 2012  
Relative to 2011**

By Zipcodes

MAPC Boundary

Major Roads

Percent change in Industrial  
Land Inventory since 2011

11% to 22% (Gain)

1% to 11% (Gain)

0% (Unchanged)

-11% to -1% (Lost)

-22% to -11% (Lost)

-33% to -22% (Lost)

MAPC Towns

Commuter Rail

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Data Sources: MAPC, MassGIS, CoStar

May 2021

0 2.5 5 10 Miles



ECONOMY / OPINION

# Industrial land disappearing at an alarming pace

## Preservation is key to avoid severe damage to the economy



ANGELA BROWN and



JESSIE PARTRIDGE GUERRERO

Mar 20, 2023

**A STRONG INDUSTRIAL** sector can help maintain the middle class, provide stable wages in a tumultuous economy, and seed technological innovations that attract workers and businesses to our region – yet Greater Boston is losing manufacturing jobs and industrial land at an alarming pace. What can planners and policy makers do to stem this trend and shore up our industrial base?

New research from the Metropolitan Area Planning Council, which spans 101 cities and towns in Greater Boston, digs into this issue in a recently released report. This data analysis, the first to take a deep dive into the industrial sector in more than 20 years, shows a measurable loss of industrial land over the last decade. The report calls for preservation strategies so the region can keep attracting new businesses and retain the ones that are located here now, while preventing drastic industrial rent spikes that result when space is hard to come by.

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A deteriorating regional industrial base has the potential to damage our region's economic strength, pricing smaller companies out of the area and disproportionately impacting workers of color and those without college degrees. Economic studies tie healthy manufacturing employment and ecosystems to greater economic resilience and innovation, and the revitalization of American industry is key to building a middle class and addressing wage disparities. And yet, we are already facing a large-scale loss of space that could impact our state for many generations.

Between 2011 and 2021, the region lost 10.9 million square feet of built industrial space, equivalent in size to 190 football fields. Nearly 75 percent of the loss occurred in MAPC's inner core region, made up of 21 communities that radiate from Boston.

While industrial space in Greater Boston declined over the past decade, the utilization of that space actually increased in the same timeframe — and low vacancy rates mean no cushion for additional loss of square footage. Any increase in demand or continued loss of industrial space, unless offset with new construction, drives rent increases and threatens the survival of existing firms.

The pressure to convert industrial space to housing has also made it hard for existing firms to afford to stay, and for new companies to find industrial space. And yet, the need to create new housing in our region is dire. Therefore, we must find a way to preserve industrial areas strategically and encourage certain types of industry to co-locate with housing and retail. For example, food production, butchers, confectionery manufacturing, breweries, and wine and liquor wholesalers, as well as arts and crafts

manufacturing, are all businesses well suited to mixed-use development, which could be incentivized in light industrial areas. Limiting big-box retail and self-storage in core industrial areas can also help maintain affordable real estate.

Cities and towns have responded with proactive and creative solutions to protecting industry by using tools like updated zoning and new special permit requirements that retain and attract industrial tenants. Industrial land use planning should also be integrated into master planning and economic development planning processes locally, and cities and towns should establish a baseline inventory of local industrial land and businesses. Even with these steps, more coordinated efforts at the regional and state levels will be needed to bring strategies to scale.

Shoring up our industrial spaces is critical to creating a resilient regional economy, where good pay and benefits are available for workers with all different levels of education and language proficiency. When paired with investments in our transportation network and strategic creation of new workforce housing, a resilient industrial sector has the power to shape a regional economy that works for all residents, ensuring Massachusetts remains a place of opportunity and innovation for years to come.

*Angela Brown is chief of economic development and Jessie Partridge Guerrero is research manager at the Metropolitan Area Planning Council.*

Tagged in: Economy/ Industrial space



## **Town of Arlington**

### **ARLINGTON REDEVELOPMENT BOARD**

#### **DRAFT Zoning Bylaw Amendments for 2023 Annual Town Meeting**

Rachel Zsembery, Chair

Kin Lau, Vice Chair

Eugene Benson

Stephen Revilak

Claire Ricker

Secretary Ex-Officio

Director of Planning and Community Development

Voted as amended \_\_\_\_\_

## **Introduction and Overview**

The Arlington Redevelopment Board (ARB) is the Town's Planning Board, under M.G.L. Chapter 41 § 81. There are five members of the Board. Four are appointed by the Town Manager and the fifth is a gubernatorial designee appointed by the Massachusetts Department of Housing and Community Development. The Board serves as the Town's special permit granting authority for projects which require an Environmental Design Review (EDR) as identified in the Zoning Bylaw. The ARB is also the Town's Urban Renewal Authority under M.G.L. Chapter 121; with Town Meeting approval, the Board may hold property to improve and rehabilitate them to meet community development goals.

The members of the ARB are as follows:

Rachel Zsembery, Chair (Term through 6/30/2023)

Kin Lau, Vice Chair (Term through 1/31/2025)

Eugene Benson (Term through 1/31/2026)

Stephen Revilak (Term through 9/22/2023)

One position is vacant

Claire Ricker, AICP, Director of the Department of Planning and Community Development, serves as Secretary Ex-Officio to the ARB.

## **Zoning Articles Overview**

The ARB review process for 2023 Annual Town Meeting began in January with the close of the Warrant and will culminate after Town Meeting with a submission by the Town Clerk of any approved zoning amendments to the Attorney General. A detailed description of the submission, review process, and schedule is posted on the [ARB website](#).

When any warrant article proposes to amend the "Town of Arlington Zoning Bylaw," the ARB is required to issue a report with recommendations to Town Meeting. Appearing below are articles that propose to amend the Zoning Bylaw and Zoning Map. This report includes a brief discussion of the intent of each proposed amendment followed by a recommended vote of the ARB. The ARB's vote constitutes its recommendation to Town Meeting. The recommendations of the ARB, and not the original warrant articles, are the actual motions that will be considered by the Town Meeting. An ARB vote of "No Action" means that Town Meeting will be asked to vote that no action be taken on the proposed warrant article. Changes to the Zoning Bylaw text are shown beneath the recommended votes. Additions to the original Zoning Bylaw text appear as underlined text, while any deletions to the original Zoning Bylaw text appear as strike through text.

The ARB advertisement for the public hearings on the Warrant Articles proposed to amend the Zoning Bylaw appeared in the Arlington Advocate & Star as required on February 16 and February 23, 2023. In accordance with the provisions of the Arlington Zoning Bylaw and Massachusetts General Laws Chapter 40A, the ARB held public hearings and heard public comments remotely on Zoom on the proposed amendments on Monday, March 6, 2023, and Monday, March 13, 2023. The ARB voted \_\_\_\_\_ on

recommended bylaw language at their meeting on March 27, 2023. The ARB voted \_\_\_\_\_ on this report as amended at their meeting on April \_\_, 2023.

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### **Summary of Recommended Votes of the Redevelopment Board**

<b>Article No.</b>	<b>Date of ARB Hearing</b>	<b>Recommendation to Town Meeting</b>
Article 26	March 6, 2023	
Article 27	March 6, 2023	
Article 28	March 6, 2023	
Article 29	March 13, 2023	
Article 30	March 13, 2023	
Article 31	March 6, 2023	
Article 32	March 13, 2023	

**Zoning Bylaw Amendments: Industrial District Development Standards**  
**Additions to the Zoning Bylaw shown in underline format. Deletions shown in ~~strikeout format~~.**

**ARTICLE 26 ZONING BYLAW AMENDMENT/ INDUSTRIAL DISTRICT DEVELOPMENT STANDARDS**

To see if the Town will vote to amend the Zoning Bylaw to update Section 5.6.2 DEVELOPMENT STANDARDS to establish the design storm or other criteria that must be met for stormwater retention and treatment to receive an exception to maximum height regulations in the Industrial District; or take any action related thereto.

(Inserted at the request of the Redevelopment Board)

**Discussion:**

**tktktktktk**

**VOTED:** **( / )**

That... (no action be taken under Article 26 / the Zoning Bylaw be and hereby is amended as follows:)

**Amend SECTION 5.6.2:**

---

**(D)(7) Development Standards, Exceptions to Maximum Height Regulations in the Industrial District**

For new development or additions that would otherwise be subject to Section 5.3.19, heights over 39 feet or three stories are allowed subject to the following development standards:

- Demonstrate that new buildings or additions shall allow for full sun at least half the time or 50% sun coverage all the time on March 21, June 21, September 21, and December 21 on the lots within the required residential buffer as defined in Section 5.3.19. The Redevelopment Board or Board of Appeals, as applicable, shall find that any shadow on abutters with existing solar panels would be negligible to allow the higher height limit.
- Provide one (1) of the following sustainable roof infrastructure components. In the case of a building that is solar ready per Section 5.6.2.D(1), the component should cover the remaining roof area where appropriate:
  - Install a vegetated or green roof over 50% of the roof area.
  - Use diffuse, highly reflective materials on 75% of the roof area.
  - Install solar energy panels tied to the electrical system of the building. For new commercial or mixed-use building, provide solar PV and/or solar thermal on a minimum of 50 percent of the roof area.
  - Provide 100% highly reflective concrete topping.
  - Install a blue roof over 50% of the roof area to provide initial temporary water storage and then gradual release of stored water.
- Retain and treat 100% of stormwater on site. Demonstrate that the proposed activity will not result in stormwater runoff or discharge from the site during storm events, based on the best currently available rainfall data for the upper bound of 90% confidence interval of the 100-year storm as defined in NOAA Atlas 14, Volume 10, or its successor. All infiltration Best Management Practices (BMPs) must be able to drain fully within 72 hours.

**Zoning Bylaw Amendments: Industrial District Development Standards**  
**Additions to the Zoning Bylaw shown in underline format. Deletions shown in ~~strikeout format~~.**

Remove stormwater pollution to the maximum extent possible, at minimum 90% of Total Suspended Solids (TSS) and 60% of Total Phosphorus. A minimum TSS removal prior to discharge to an infiltration BMP(s) must comply with the Massachusetts Department of Environmental Protection Stormwater Policy as amended from time to time.

**Zoning Bylaw Amendment: Solar Bylaw in Industrial Districts**

Additions to the Zoning Bylaw shown in underline format. Deletions shown in ~~strikeout format~~.

**ARTICLE 27**

**ZONING BYLAW AMENDMENT/ SOLAR BYLAW IN INDUSTRIAL DISTRICTS**

To see if the Town will vote to amend the Zoning Bylaw to update Section 5.6.2 DEVELOPMENT STANDARDS to reflect the inclusion of Section 6.4 SOLAR ENERGY SYSTEMS; or take any action related thereto.

(Inserted at the request of the Redevelopment Board)

**Discussion:**

tktktktktk

**VOTED:** ( / )

That... (no action be taken under Article 27 / the Zoning Bylaw be and hereby is amended as follows:)

**Amend Section 5.6.2:**

---

**5.6.2(D)(1) Development Standards, Renewable Energy Installations**

D. Development Standards. In the Industrial District, the following requirements apply to all new development or additions over 50% of the existing footprint:

(1) Renewable Energy Installations

- The Redevelopment Board may, by special permit, allow adjustments to the height and setbacks in order to accommodate the installation of solar photovoltaic, solar thermal, living and other eco-roofs, energy storage, and air-source heat pump equipment. Such adjustments shall not create a significant detriment to abutters in terms of noise or shadow and must be appropriately integrated into the architecture of the building and the layout of the site, consistent with the other requirements of this section.
- All new commercial and mixed-use buildings subject to Environmental Design Review shall be solar ready comply with Section 6.4, Solar Energy Systems. All new commercial buildings not subject to Environmental Design Review shall be solar ready, to the extent feasible.
- If not subject to Environmental Design Review, additions over 50% of the footprint of existing buildings shall be solar ready to the extent feasible.

**5.6.2(D)(7) Development Standards, Exceptions to Maximum Height Regulations in the Industrial District**

For new development or additions that would otherwise be subject to Section 5.3.19, heights over 39 feet or three stories are allowed subject to the following development standards:

- Demonstrate that new buildings or additions shall allow for full sun at least half the time or 50% sun coverage all the time on March 21, June 21, September 21, and December 21 on the lots within the required residential buffer as defined in Section 5.3.19. The Redevelopment Board or

## **Zoning Bylaw Amendment: Solar Bylaw in Industrial Districts**

**Additions to the Zoning Bylaw shown in underline format. Deletions shown in ~~strikeout format~~.**

Board of Appeals, as applicable, shall find that any shadow on abutters with existing solar panels would be negligible to allow the higher height limit.

- Provide one (1) of the following sustainable roof infrastructure components. Projects requiring Environmental Design Review are subject to section 6.4, Solar Energy Systems, and must therefore provide one additional component. In the case of a building that is solar ready per Section 5.6.2.D(1), the component should cover the remaining roof area where appropriate:
  - Install a vegetated or green roof over 50% of the roof area, or the portion of the roof without a solar energy system, whichever is less.
  - Use diffuse, highly reflective materials on 75% a significant proportion of the roof area that does not include solar.
  - ~~Install solar energy panels tied to the electrical system of the building. For new commercial or mixed-use building, provide solar PV and/or solar thermal on a minimum of 50 percent of the roof area.~~
  - Provide 100% highly reflective concrete topping on a significant portion of the roof area without a solar energy system.
  - Install a blue roof on a significant portion of the roof area without a solar energy system over 50% of the roof area to provide initial temporary water storage and then gradual release of stored water.
  - Retain and treat 100% of stormwater on site.

**Zoning Bylaw Amendment: Building Inspector, Enforcement**

Additions to the Zoning Bylaw shown in underline format. Deletions shown in ~~strikeout format~~.

**ARTICLE 28 ZONING BYLAW AMENDMENT/ BUILDING INSPECTOR, ENFORCEMENT**

To see if the Town will vote to amend the Zoning Bylaw to update Section 3.1(B) BUILDING INSPECTOR; ENFORCEMENT to remove a section that was deemed unenforceable by the Attorney General; or take any action related thereto.

(Inserted at the request of the Redevelopment Board)

**Discussion:**

tktktktktk

**VOTED:** ( / )

That... (no action be taken under Article 28 / the Zoning Bylaw be and hereby is amended as follows:)

**Amend Section 3.1:**

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- A. The Building Inspector appointed under the provisions of G.L. c. 143 is hereby designated and authorized as the officer charged with the administration and enforcement of this Bylaw.
- B. No person shall erect, construct, reconstruct, convert, or alter a structure, or change the use or lot coverage, increase the intensity of use, or extend or displace the use of any structure or lot without applying for and receiving the required permit(s) from the Building Inspector. ~~No such permit shall be issued until the Building Inspector finds that the applicant is in compliance with the applicable provisions of Title VI, Article 7 of the Town Bylaws~~<sup>2</sup>.

<sup>2</sup>Per the Massachusetts Attorney General decision on zoning amendments approve by 2020 Special Town Meeting, Subsection 3.1(B) cannot be applied to authorize the withholding of a building permit for failure to comply with general bylaw requirements. See <https://www.arlingtonma.gov/home/showdocument?id=63690&t=638097422294281171> for the full text.

## **Zoning Bylaw Amendments: Downtown Business Parking Minimums**

**Additions to the Zoning Bylaw shown in underline format. Deletions shown in ~~strikeout format~~.**

### **ARTICLE 29**

### **ZONING BYLAW AMENDMENT/ DOWNTOWN BUSINESS PARKING MINIMUMS**

To see if the Town will vote to amend the Zoning Bylaw to completely remove the minimum parking requirements for all non-residential uses in the B5 District; or take any action related thereto.

(Inserted at the request of James Fleming and 10 registered voters)

#### **Discussion:**

tktktktktk

**VOTED:** ( / )

That... (no action be taken under Article 29 / the Zoning Bylaw be and hereby is amended as follows:)

- By making the following changes to Section 6.1 of the Zoning Bylaw ("Site Development Standards", "Off-Street Parking"):

#### **Amend Section 6.1.2. Applicability**

- A. No land, building, or structure shall be used or changed to a category of greater parking demand, determined in accordance with the Table of Off-Street Parking Regulations below, except in accordance with this Section 6.1.
- B. Non-residential uses in the B5 District shall not be required to provide off-street parking; for any development, or change of use to a category of greater parking demand, the applicant may substitute space in public parking lots in lieu of parking requirements as described in Section 6.1.10(D), or shall provide a Transportation Demand Management plan as described in Section 6.1.5(C), to be administratively reviewed and approved by the Department of Planning and Community Development.

Non-residential uses in the B5 district are not required to provide any off street parking, provided the building containing the use is within 1,000 feet of a public parking lot with more than the number of parking spaces as would otherwise be required by this Bylaw for the use, or a Transportation Demand Management Plan as described in Section 6.1.5(C) is provided to and approved by the Department of Planning and Community Development.

#### **Amend Section 6.1.5(C):**

- C. Transportation Demand Management (TDM): Any request for parking reduction must include a plan to reduce demand for parking. TDM provides incentives to reduce the use of Single Occupant Vehicles and encourages the use of public transit, bicycling, walking, and ridesharing. All projects requesting a parking reduction must employ at least three TDM methods described below:
  - a. Charge for parking on-site;
  - b. Pay a stipend to workers or residents without cars;
  - c. Provide preferential parking for carpooling vehicles;

**Zoning Bylaw Amendments: Downtown Business Parking Minimums**  
**Additions to the Zoning Bylaw shown in underline format. Deletions shown in ~~strikeout format~~.**

- d. Provide a guaranteed emergency ride home;
- e. Provide transit pass subsidies;
- f. Provide covered bicycle parking and storage, if otherwise not required;
- g. Provide bicycle or car sharing on site;
- h. Provide showers for business or industrial uses;
- i. Other means acceptable to the applicable Special Permit Granting Authority.

When the applicable Special Permit Granting Authority determines that a business in a Business District other than B5 has no ability to create new parking onsite and that there is adequate nearby on-street parking or municipal parking, it may reduce to less than 25 percent or eliminate the amount of parking required in the Table of Off-Street Parking Regulations. In those circumstances, the applicable Special Permit Granting Authority may require the applicant to incorporate methods set forth in subparagraphs A., B., and C. of this section. The reductions described in this paragraph do not apply to residential use classes identified in Section 5.5.3. and are in addition to the exemption from the parking requirements for the first 3,000 square feet of non-residential space in a mixed-use development as set forth in Section 6.1.10.C.

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**Amend Section 6.1.10**

**D.** Public Parking Lots. The Department of Planning and Community Development, Board of Appeals or Arlington Redevelopment Board, as applicable, may allow the substitution of space within public parking lots in lieu of parking requirements of this Section 6.1 provided they are located within 1,000 feet of the building to be served.

**Zoning Bylaw Amendments: One- and Two-Family Usable Open Space**  
Additions to the Zoning Bylaw shown in underline format. Deletions shown in ~~strikeout format~~.

**ARTICLE 30 ZONING BYLAW AMENDMENT / ONE- AND TWO-FAMILY USABLE OPEN SPACE**

To see if the Town will vote to amend the Zoning Bylaw to completely remove the usable open space requirement for one- and two-family uses; or take any action related thereto.

(Inserted at the request of James Fleming and 10 registered voters)

**Discussion:**

tktktktktk

**VOTED:** ( / )

That... (no action be taken under Article 30 / the Zoning Bylaw be and hereby is amended as follows:)

**Amend Section 5.4.2(A): Tables of Dimensional and Density Regulations:**

Minimum/Maximum Requirements				
District	Use	Landscaped Open Space (Min.)	Usable Open Space (Min.)	Maximum Lot Coverage
R0	Permitted residential structure	10%	30%	35%
R1, R2	Permitted residential structure	10%	30%	35%
R3	<u>Single-family detached dwelling, two-family dwelling, duplex dwelling,</u>	<u>10%</u>	-----	-----
	<u>Single-family detached dwelling, two-family dwelling, duplex dwelling, three-family dwelling; or other permitted structure except townhouse</u>	10%	30%	
R4	<u>Single-family detached dwelling, two-family dwelling, duplex dwelling,</u>	<u>10%</u>	-----	<u>35%</u>
	<u>Single-family detached dwelling, two-family dwelling, duplex dwelling, three-family dwelling</u>	10%	30%	35%

**Zoning Bylaw Amendments: One- and Two-Family Usable Open Space**  
**Additions to the Zoning Bylaw shown in underline format. Deletions shown in ~~strikeout format~~.**

R5	Single-family detached dwelling, two-family dwelling, duplex dwelling, <del>three-family dwelling</del>	10%	30%	----
	<u>Three-family dwelling</u> , Townhouse, apartment building	10%	30%	----
R6	<u>Single or two-family dwelling</u> , duplex dwelling	<u>10%</u>	----	----
	<u>Single or two-family dwelling</u> , duplex dwelling, three-family dwelling	10%	25%	----
R7	<u>Single or two-family dwelling</u> , duplex dwelling	<u>10%</u>	----	----
	Any <u>other</u> permitted principal structure	10%	15%	----

**Amend Section 5.5.2(A): Tables of Dimensional and Density Regulations:**

Minimum/Maximum Requirements				
District	Use	Landscaped Open Space (Min.)	Usable Open Space (Min.)	Maximum Lot Coverage
B1				
	<u>Single-family detached dwelling</u> , <u>two-family dwelling</u> , duplex dwelling,	<u>10%</u>	----	----
B2				
	<u>Single-family detached dwelling</u> , <u>two-family dwelling</u> , duplex dwelling,	<u>10%</u>	----	----

**Zoning Bylaw Amendments: One- and Two-Family Usable Open Space**  
**Additions to the Zoning Bylaw shown in underline format. Deletions shown in ~~strikeout format~~.**

	<del>Single family detached dwelling, two-family dwelling, duplex dwelling, three-family dwelling</del>	10%	30%	-----
B3	<u>Single-family detached dwelling, two-family dwelling, duplex dwelling,</u>	<u>10%</u>	-----	-----
	<del>Single family detached dwelling, two-family dwelling, duplex dwelling, three-family dwelling</del>	10%	30%	-----
B4	<u>Single-family detached dwelling, two-family dwelling, duplex dwelling,</u>	<u>10%</u>	-----	-----
	<del>Single family detached dwelling, two-family dwelling, duplex dwelling, three-family dwelling</del>	10%	30%	-----
B5	<u>Single-family detached dwelling, two-family dwelling, duplex dwelling,</u>	<u>10%</u>	-----	-----
	<del>Single family detached dwelling, two-family dwelling, duplex dwelling, three-family dwelling</del>	10%	30%	-----

Minimum/Maximum Requirements			
District Use	Landscaped Open Space (Min.)	Usable Open Space (Min.)	Maximum Lot Coverage
RO			

**Zoning Bylaw Amendments: One- and Two-Family Usable Open Space**  
**Additions to the Zoning Bylaw shown in underline format. Deletions shown in ~~strikeout format~~.**

Permitted residential structure	10%	30%	35%
R1, R2			
Permitted residential structure	10%	30%	35%

**Zoning Bylaw Amendments: Industrial District Animal Daycare Use**  
**Additions to the Zoning Bylaw shown in underline format. Deletions shown in ~~strikeout format~~.**

**ARTICLE 31 ZONING BYLAW AMENDMENT / INDUSTRIAL DISTRICT ANIMAL DAYCARE USE**

To see if the Town will vote to amend the Zoning Bylaw to update Section 5.6.3 USE REGULATIONS FOR MU, PUD, I, T, and OS DISTRICTS, to allow animal daycare; or take any action related thereto.

(Inserted at the request of Kristin Anderson and 10 registered voters)

**Discussion:**

tktktktktk

**VOTED:** ( / )

That... (no action be taken under Article 31 / the Zoning Bylaw be and hereby is amended as follows:)

**Amend SECTION 5.6.3:**

By adding the letter "Y" to the "Use Regulations for MU, PUD, IT, T, and OS Districts" table in Section 5.6.3, in the row labeled "Veterinary and animal care; accessory overnight boarding only for veterinary/medical care in an enclosed building" under the column labeled "I"; so that last row under "Personal, Consumer, and Business Services" in the table reads as follows:

**5.6.3 Use Regulations for MU, PUD, I, T, and OS Districts**

Class of Use	MU	PUD	I	T	OS
<b>Personal, Consumer, and Business Services</b>					
Veterinary and animal care; accessory overnight boarding only for veterinary/medical care in an enclosed building			Y		
<u>Animal day care</u>			Y		

**Zoning Bylaw Amendments: Build Affordable Housing Everywhere**  
Additions to the Zoning Bylaw shown in underline format. Deletions shown in ~~strikeout format~~.

**ARTICLE 32 ZONING BYLAW AMENDMENT / BUILD AFFORDABLE HOUSING EVERYWHERE**

To see if the Town will vote to amend the Zoning Bylaw so developments of 100% affordable housing may be built by right in all zones, with lower requirements as well; or take any action related thereto.

(Inserted at the request of Thomas J. Perkins and 10 registered voters)

**Discussion:**

The petitioner requested to withdraw the proposal via email to staff on March 21, 2023. As such, the ARB did not discuss this article except to agree that the proposal had significant flaws as it had been presented and that they should recommend no action on the warrant article.

**VOTED:** ( / )

That... (no action be taken under Article 32 / the Zoning Bylaw be and hereby is amended as follows:)



## Town of Arlington, Massachusetts

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### Review Meeting Minutes

#### Summary:

10:00 p.m.      Board will review and vote to approve meeting minutes for 3/6/2023.

#### ATTACHMENTS:

Type	File Name	Description
❑ Reference Material	03062023_Draft_Minutes_Arlington_Redevelopment_Board.pdf	03062023 Draft Minutes Arlington Redevelopment Board

**Arlington Redevelopment Board**  
**Monday, March 6, 2023, at 7:30 PM**  
**Community Center, Main Hall**  
**27 Maple Street, Arlington, MA 02476**  
**Meeting Minutes**

This meeting was recorded by ACMi.

**PRESENT:** Rachel Zsembery (Chair), Eugene Benson, Kin Lau, Steve Revilak

**STAFF:** Claire Ricker, Director, Planning and Community Development; Kelly Lynema, Assistant Director of Planning and Community Development

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The Chair opened with the continued public hearing for docket number 3828, 99 Massachusetts Ave.

Ms. Ricker stated that the applicant had submitted updated drawings. James Rissling of LR Designs presented these.

Mr. Lau stated his opinion that he prefers the red natural brick. He thanked the applicant for reducing the stair tower height, bringing down the parapet, and updating the trim. He asked whether the applicant would consider adding plantings in the parking area; the applicant agreed. He also requested a fence to prevent headlight glare into the adjacent property; the applicant agreed. Discussion followed.

The Chair requested a planting schedule.

Mr. Benson expressed his concern that the project is inconsistent with the zoning bylaw, and gave examples.

The Chair stated that before she gave her approval, she would need to see a sample of the standing seam panel to determine whether it has a finished edge.

Mr. Benson stated that regarding nonconformities, the Board would need to determine that the proposal does not increase any existing nonconformity in order to approve the project. He stated that he also prefers, but is not insisting on, the brick finish.

The Chair opened the floor for public comment. Kristen Anderson stated that she is impressed by the design, and prefers white over brick finish. Seeing no other attendees wishing to provide comment, the Chair closed the public comment period.

The Chair addressed solar on the roof.

Mr. Benson stated that the applicant's option is either to say that they think they meet exemptions described in Section 6.4.2 or to come back with the roof plan with solar on at least half the roof.

The Chair stated that, as regards the rear parking area, the applicant has to ensure that they are not creating any new non-conformities. Mr. Benson suggested that if they consider the parking lot non-conforming, then they don't have to worry about placing the fence and vegetation. Discussion followed. The Chair stated that this is an existing non-conformity, which the applicant is improving with landscaping. Mr. Revilak requested that when the applicant is working on a landscaping schedule, they consult the Conservation Commission's published list of preferred native plantings for their selections.

The Chair confirmed that the applicant is amenable to adding back in the second exterior bike rack. She also stated that, as regards the open space, the trade-off is adding an accessible ramp to the building. Mr. Benson stated that the bylaw does not allow that trade-off, which would increase the non-conformity. Ms. Lynema clarified that the definition of landscaped open space includes walks and terraces, therefore the Board could consider including the walkway in the calculation of landscaped open space. Discussion followed.

The Chair stated that for the final approval, the applicant needs to provide specifications for the open space; specifications for the metal panel with the reveal; a second bike rack on the exterior; a roof plan showing solar on at least 50% of the roof; fencing along the west side of the parking area; and some indication of the planting using the Town's native planting schedule.

Ms. Lynema suggested continuing to March 27 to deliberate and vote on this item. The Board voted unanimously in favor.

Mr. Benson stated that under 8.1.1, the Board needs to make a finding that the change is not substantially more detrimental.

The Chair moved to agenda item 2, the first night of public hearings for the 2023 Annual Town Meeting.

The Chair opened with Article 31, a zoning bylaw amendment related to industrial district animal daycare use. Mr. Benson recused himself from discussing or voting on this. Kristen Andersen presented; the Board members supported the amendment.

The Chair opened the floor for public comment.

Chris Loretto supported the article, and suggested that the zoning bylaw contemplate the town having overnight kennels.

The Chair stated that they will discuss and vote on the 27th.

The Chair moved to Article 26, the zoning bylaw amendment related to industrial district development standards.

Ms. Lynema stated that current stormwater criteria are too vague, and that she worked with the Town Engineer and the Town's Environmental Planner / Conservation Agent to develop the proposed additional criteria. Discussion followed.

Mr. Revilak asked whether the Board would accept a letter from an applicant's professional engineer certifying compliance. The Chair replied that an applicant's letter would be reviewed by the Town engineer. Mr. Revilak asked whether NOAA 14 is a different standard than NOAA 14 Plus; Mr. Benson stated that NOAA 14 is a little bit less than NOAA 14 Plus.

The Chair opened the floor for public comment.

Mr. Loretto asked why, if the amendment is a good idea, it is limited to the industrial zone. He suggested that the amendment should be more specific about methodologies used to determine reductions in amounts of TSS and phosphorus. He also recommended that this be referred to the Conservation Commission for comment. Ms. Lynema clarified that the Conservation Agent, who co-authored the amendment, is a representative of the Conservation Commission and worked with Commission members to create the proposed amendment text.

The Chair moved to Article 27, zoning bylaw amendment for solar in the industrial districts.

Ms. Lynema stated that this set of amendments comprises minor text changes.

The Chair moved to Article 28, zoning bylaw amendment related to Building Inspector enforcement. Ms. Lynema discussed the administrative changes.

The Chair requested a vote to continue to March 13. The Board voted unanimously in favor.

The Chair moved to the next item, a vote to refer the warrant articles that the Board initially created for the next scheduled Special or Annual Town Meeting. She requested a motion for the withdrawal of the following draft articles:

1. Open Space and Business Districts;
2. Rear Yard Setbacks in Business Districts;
3. Stepback Requirements in Business Districts;
4. Reduced Height Buffer Area;
5. Corner Lot Requirements;
6. Height and Story Minimums in Business Districts;
7. Arlington Heights Business District Zoning Bylaw Amendment and Zoning Map Amendments;
8. ARB Jurisdiction Over Industrial Districts.

She made a motion that those articles previously voted on to be placed on the draft town warrant be referred to the Redevelopment Board for further study.

The Board voted unanimously in favor.

The Chair moved to the next item, Open Forum.

Susan Stamps stated that, as a Tree Committee and Town Meeting member, she has tried to be in tune with the work that Ms. Lynema and Ms. Ricker have been doing. She praised the meetings of the MBTA Communities Working Group, and stated that she is trying to be a bridge between housing advocates and tree/environmental advocates. Discussion followed.

The Chair moved to the next item, new business.

Ms. Lynema advised that the MBTA will hold an MBTA Communities Working Group community visioning session on March 9. Ms. Ricker advised that on March 15, there will be a meeting about Mass Ave and Appleton Street design concepts.

Mr. Benson asked when the Board could expect an update; Ms. Lynema replied, on March 27

The Chair requested a motion to adjourn; the Board voted unanimously in favor.

(Meeting adjourned)



## Town of Arlington, Massachusetts

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### Correspondence

#### Summary:

Correspondence received from:

K. Anderson 3-27-2023

L. Woodard 3-27-2023

#### ATTACHMENTS:

Type	File Name	Description
<input type="checkbox"/> Reference Material	Correspondence_from_K._Anderson_received_03272023.pdf	Correspondence from K. Anderson received 03272023
<input type="checkbox"/> Reference Material	Correspondence_from_L._Woodard_received_03272023.pdf	Correspondence from L. Woodard received 03272023

**From:** Kristin Anderson <forcedexposure@gmail.com>  
**Sent:** Monday, March 27, 2023 8:44 AM  
**To:** Kelly Lynema <klynema@town.arlington.ma.us>; Claire Ricker <cricker@town.arlington.ma.us>; Rachel Zsembery <rzsembery@town.arlington.ma.us>  
**Cc:** Daria Pannesi <strutnpuppy@gmail.com>  
**Subject:** ARB meeting tonight / Warrant Article 31

CAUTION: This email originated from outside your organization. Exercise caution when opening attachments or clicking links, especially from unknown senders.  
Good morning Assistant Director of Planning and Community Development Kelly Lynema, Director of Planning and Community Development Claire Ricker, and Chair of the Redevelopment Board Rachel Zsembery,

Daria Pannesi from Strut n Pup will be at tonight's ARB meeting. Daria is cc:d here.

Daria has been living in Arlington for 27 years and runs a very successful dog walking service here. Daria has tried three times to expand her business in Arlington. But, because of the use restriction, she was not able to grow her business into available spaces in the Industrial Zone.

Daria would very much like the opportunity to speak for three minutes on this warrant article tonight before the ARB votes on it.

Our understanding is that the ARB will be addressing this Warrant Article at 8:30 this evening. Additionally, we've invited other folks in town to come in support of allowing animal daycare use in the Industrial Zone.

Thanks for your support! 😊

Best wishes,

Kristin Anderson  
Arlington Town Meeting Member & Person who is able to bring her happy pandemic puppy to work everyday at her business in the Industrial Zone

**From:** LES WOODARD <LesWoodard@comcast.net>  
**Sent:** Monday, March 27, 2023 2:36 PM  
**To:** Claire Ricker <cricker@town.arlington.ma.us>  
**Subject:** Article 31 of the town warrant

CAUTION: This email originated from outside your organization. Exercise caution when opening attachments or clicking links, especially from unknown senders.

Hi Claire,  
I just wanted to comment in favor of article 31.

I think this would be a great benefit to the town.

Best Regards  
Les Woodard  
13 Cottage Ave #1R

Sent from my iPhone